

I/2 018 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--PULSE METHOD FOR STUDYING THE THERMAL ACTIVITY OF DIELECTRIC
LIQUIDS -U-
AUTHOR--SPIRIN, G.G., POLYAKOV, YU.A., SOLOMONOV, S.D. P
COUNTRY OF INFO--USSR
SOURCE--INZH., FIZ. ZH. 1970, 18(2), 253-8
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--DIELECTRIC PROPERTY, HEAT CAPACITY, ETHYL ALCOHOL, WATER,
MATERIAL MIXING, MEASUREMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0580 STEP NO--UR/0170/70/018/002/0253/0258
CIRC ACCESSION NO--AP0107177
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107177

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON IMMERSING A THIN PLATE TEMP. SENSOR FORMED BY A METALLIC LAYER SUPPORTED BY A DIELEC. PLATE INTO A DIELEC. LIQ., A CONST. HEAT FLUX IS GENERATED AFTER INTRODUCTION OF A RECTANGULAR CURRENT PULSE. BY KEEPING THE INTERVAL OF THE PULSE AT 100-1000 MUSEC, THE HEAT CAPACITY OF THE BEARER PLATE CAN BE NEGLECTED AND THE EQUATION OF THERMAL CONDUCTION CAN BE APPLIED AND SOLVED. THE WIRING DIAGRAM OF THE MEASURING BRIDGE IS GIVEN, AS WELL AS THE CHANGE IN THERMAL ACTIVITY IN MIXING OF ETOH AND H SUB2 O. THE MEASUREMENT EXACTNESS DEPENDS ON INPUT SIGNAL AMPLITUDE; FOR AMPLITUDES OF 30-50 MM, IT IS 2-4PERCENT.

UNCLASSIFIED

POLYAKOV, Yu. I.

SO:JPRS 55204

16 FEB 72

UDC: 61:374

TRAINING FOR DISSEMINATION OF MEDICAL INFORMATION

(Article by Yu. I. Polyakov (Penza); Moscow, Sovetskoye Zdravookhraneniye, Russian, No. 1, 1972, submitted 2 August 1971, pp 40-42)

Prevention is the general line of Soviet public health. An important component is health education propaganda. In the address of the Central Committee of the CPSU, Presidium of the USSR Supreme Council and USSR Council of Ministers to Soviet public health workers, in connection with the 30th anniversary of this service, it is stated: "It is the duty of Soviet medical workers to continuously improve and perfect preventive and therapeutic work, to raise the work standards of public health institutions, and to participate actively in dissemination of medical information."

A large army of medical workers is involved in health education propaganda. Experience shows that to be successful in talking before the public, a propagandist must not only be competent in medicine, but also be able to impart such knowledge to others, i.e., he should acquire some propagandistic skills and habits. Such ability and skill should be given to medical students. Yet only eight hours are scheduled in the course on public health organization for the study of health education in medical schools. This is obviously not enough to resolve the problem in question.

Training of students with respect to medical propaganda can be offered without any detriment to other subjects. Even in the junior years, when studying general medical subjects, we deliver lectures and hold seminars with the teachers and discussion of papers and reports prepared by the students, which aids in delivering speeches.

Particularly active training for medical propaganda begins in the third year of school. By this time the students acquire medical knowledge and have learned how to learn. At meetings on clinical subjects, the instructors teach their students to prepare and deliver abstract surveys using the journals, Sovetskoye Zdravookhraneniye (Soviet Public Health), Fel'dsher i Akusherka (The Fieldsher and Midwife), and Meditsinskaya Sestra (Nurse). Abstract

Training, 16 June 1968.

POLYAKOV YUV

USSR

UDC 669.14.018.8:658.562

KAS'YANOV, A. G., GUREVICH, YU. G., MARKELOV, A. I., SIDOROV,
N. V., GERASIMOV, YU. V., KHASIN, G. A., CHISTYAKOV, S. I.,
POLYAKOV, YU. V., LEBEDEVA, V. N., Chelyabinsk Polytechnical
Institute and Zlatoust Metallurgical Plant

"Quality of Stainless, Low-Carbon Steel"

Moscow, Metallurg., No 5, May 70, pp 17-19

Abstract: A stainless, low-carbon steel developed at the Zlatoust Metallurgical Plant is described. The carbon content of this steel is less than 0.030%, and the steel is made in open arc furnaces using metal electrodes or by scavenging the liquid steel with argon. Comparisons were made between this steel and a similar metal made in vacuum induction furnaces. A table gives the impurities in the various types of steel produced by the two methods -- the use of metal electrodes and argon scavenging. An analysis of the results of a quantitative estimate of impurities showed that owing to the high degree of deformation, the contamination along the transverse axis of the steel sheet is less than that along the longitudinal axis. The mechanical

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KAS'YANOV, A. G., et al., Metallurg., No 5, May 70, pp 17-19

characteristics of the steel satisfied all technical requirements. A comparison of the mechanical characteristics of this steel made by the three processes discussed -- metallic electrodes, argon scavenging, and vacuum induction -- is also presented.

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USSR

UDC 547.261118

SHEREPIEVA, YE. S., SEMIN, P. I., OLYENIK, D. H., BARTYK, YE. I. and
POLYAKOVA, A. A.; Institute of Petrochemical Synthesis under A. V. Top-
chiyev, USSR Academy of Sciences, Moscow

"Phosphonic Derivatives of Adamantane"

Moscow, Doklady Akademii Nauk SSSR, Vol 203, No 3, 1972, pp 605-611

Abstract: The phosphonic derivatives of adamantane which have a carbon-phosphorus bond have only recently been described in the chemical literature. As is well known, one of the methods of synthesizing organophosphorus compounds with such a bond is that of oxidizing chlorophosphorane -- that is, the reaction of halogeno phosphines with trialkyl phosphines (usually phosphorus trichloride) with various catalysts in the presence of oxygen. The purpose of this study was to test this method in obtaining phosphonic acid derivatives. To an adamantane solution within which oxygen trichloride was introduced dry oxygen, the temperature of the reaction mixture being held at 43 to -5°C for 2-30 hrs. This yielded 2,2,2-trimethyladamantane dichloride. The authors also produced the methyl ester of 2,2,2-trimethyladamantane acid by reacting the acid dichloride with sodium acetate in a toluene solution, also heated. Nine derivatives of a-p. acid were synthesized (including four isomeric forms), for

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SHERER, Y. S., et al., Doklady Akademii Nauk SSSR, Vol 203, No 3, 1972, pp 603-611

which boiling points, compositions and spectra (infrared, mass and proton magnetic resonance) were obtained.

Tables of physical-chemical constants and suggested reaction schemes are included with the paper. Some of the data obtained differ from those published by H. SHERER and W. DICER in 1969.

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USSR

UDC 621.387.233

AVLAKHORA, R. G., LARSHINA, S. I., POLYAKOVA, A. A., ROGOVA, G. N.

"Study of Oxide Cathode Sputtering in Hydrogen Thyatron With Current Commutation of Short Duration"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazorazryadn. pribory (Electronic Technology. Scientific-Technical Collection. Gas-Discharge Devices), 1970, Issue 4(20), pp 49-53 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5A165)

Translation: It is demonstrated by the method of radioisotopes that in hydrogen thyratrons with commutation of pulses of 100 nsec duration, intense ion bombardment of the cathode takes place. Summary.

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1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ANALYTICAL CHARACTERISTICS OF A CYCLOIDAL TYPE MASS SPECTROMETER
MKH1203 -U-
AUTHOR--(05)--KUZMIN, A.F., KRIVTSOV, B.S., POLYAKOVA, A.A., RAFALSON, A.E.,
KHMELNITSKIY, R.A.
COUNTRY OF INFO--USSR
SOURCE--ZAVOD. LAB. 1970, 36(2), 243-5
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--MASS SPECTROMETER, ATOMIC MASS, QUANTITATIVE ANALYSIS, ERROR
ANALYSIS/(U)MKH1203 MASS SPECTROMETER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1192 STEP NO--UR/0032/70/036/002/0243/0245
CIRC ACCESSION NO--AP0124846
UNCLASSIFIED

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PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124846

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE APP. HAS BEEN DESIGNED FOR A PERIODIC ANAL. OF THE COMPN. OF LIQ. AND GASEOUS SAMPLE IN THE RANGE OF 2-150 AT. MASS UNITS WITH A VAPOR PRESSURE LARGER THAN OR EQUAL TO 30 MM HG AT 100DEGREES. ITS USE IS ADVANTAGEOUS IN THE ANAL. OF MICROADMIXTS. AND IN THE ANAL. OF MIXTS. OF POLAR COMPS.; HOWEVER, IT CAN BE USED ALSO FOR A RAPID ANAL. OF LIQS. AND FOR SOME KINDS OF ISOTOPIC ANAL. THE MKH1203 HAS A LOW BACKGROUND AND LOW SORPTION OF THE ANALYZED COMPS. ON THE INTERNAL SURFACE. TO PUMP OUT COMPS. WITH ORDINARY SORPTABILITY TO 0.01PERCENT OF THE INITIAL CONC., TAKES, 3 MIN AND COMPS. STRONGLY ADSORBED TO 0.2PERCENT OF INITIAL CONC., 15 MIN. THE SENSITIVITY FOR AR IS 10 NEGATIVE PRIME4 AND 0.05PERCENT IN RECORDING THE MASS SPECTRA BY MEANS OF A VACUUM TUBE POTENTIOMETER AND LIGHT BEAM OSCILLOGRAPH, RESP. THE RELATIVE REPRODUCIBILITY OF THE MASS SPECTRUM OF C SUB4 H SUB10 WITHIN 1 MONTH IS 1PERCENT. THE RELATIVE ANAL. ERROR DEPENDS ON THE COMPN. OF THE ANALYZED MIXT. AND VARIES WITHIN 1-5PERCENT AT THE COMPONENT CONC. OF LARGER THAN OR EQUAL TO 10 MOLE PERCENT. IN THE ANAL. OF MIXTS. CONTG. C SUB6 H SUB6, PHME, NONANE, TRICHLOROETHYLENE, AND ET SUB2 O, THE MAX. ERROR WAS SMALLER THAN 2PERCENT.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--GAS CHROMATOGRAPHIC ANALYSIS OF A MIXTURE OF SECONDARY OCTYLPHENOLS
-U-
AUTHOR--(03)--LIPSHEYN, A.R., LULOVA, N.I., POLYAKOVA, A.A.
COUNTRY OF INFO--USSR
SOURCE--NEFTEPEREKAB. NEFTEKHIM. (MOSCOW) 1970, (3), 45-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--GAS CHROMATOGRAPHY, PLASTIC COATING, SILOXANE, ELASTOMER,
ALKYLPHENOL/(U)SE30 SILOXANE ELASTOMER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1102 STEP NO--UR/0318/70/000/003/0045/0046
CIRC ACCESSION NO--AP0128529

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PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128529

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SECONDARY ALKYLPHENOLS WERE ANALYZED AFTER METHYLATION TO THE CORRESPONDING ETHERS. THE RESULTING ANISOLES WERE DETD. BY USING A SHIMADZU GAS CHROMATOGRAPH. APP., WITH A STAINLESS STEEL CAPILLARY COLUMN (50 M TIMES 0.25 MM INSIDE DIAM.) COATED WITH POLY(METHYLSILOXANE) ELASTOMER SE-30. THE TEMP. OF THE COLUMN WAS 180DEGREES, THE TEMP. OF THE VAPORIZER 250DEGREES, AND THE CARRIER GAS HE. THE RELATIVE RETENTION VOLS. OF INDIVIDUAL COMPONENTS (R EQUALS OCTYLANISOLE) WERE: O-1-R, 1.240; O-2-R, 0.905; O-3-R, 0.770; O-4-R, 0.715; P-2-R, 1.135; P-3-R, 1.000; AND P-4-R, 0.945.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ANALYSIS OF THE OPERATION OF A SULFURIC ACID ALKYLATION
INSTALLATION -U-
AUTHOR--(04)-VSTAVSKAYA, L.I., POLYAKOVA, A.I., SOTSKOV, M.K., GARAYEVA,
F.G.
COUNTRY OF INFO--USSR
SOURCE--NEFTEPERERAB. NEFTEKHIM. MOSCOW, 1970, (2), 25-7
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--SULFURIC ACID, ALKYLATION, PROPANE, CHEMICAL PURITY, CHEMICAL
PLANT EQUIPMENT, CHEMICAL ENGINEERING

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0646 STEP NO--UR/0318/T0/000/002/0025/0027
CIRC ACCESSION NO--AP0119558
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PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119558

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPROPANIZER WAS CONNECTED WITH THE TOP OF THE RECTIFYING BLOCK TO OBTAIN C SUB3 H SUB8 OF HIGH PURITY AND IMPROVE THE OPERATION OF THE DEBUTANIZER. THE OPTIMUM TEMP. (MAX. 12DEGREES) OF THE CONTACTOR WAS OBTAINED WITH AN ADDNL. NH SUB3 CONDENSER COOLER OF 450 M PRIME2. SUCH APP. WERE ADDED TO THE DEPROPANIZER AND DEBUTANIZER. FRESH AND SPENT H SUB2 SO SUB4 HAD 98 AND 85PERCENT CONC., RESP. ISOBUTANE OLEFIN RATIOS IN THE INTAKE STOCK AND IN THE REACTION ZONE WERE 1.2-1.3:1 AND 5.0:1.0, RESP. A FLOW SHEET, PROPERTIES OF THE RAW MATERIALS AND PRODUCTS OBTAINED, AND OPERATION DATA ARE PRESENTED. FACILITY: KUIBYSHEV. NPZ, KUIBYSHEV, USSR.

UNCLASSIFIED

Acc. Nr: **AP0050041** Abstracting Service:
CHEMICAL ABST. 5/70

Ref. Code:
UR 0109

105051g Pressure sensitivity of Schottky diode current.
Elinson, M. I.; Pokalyakin, V. I.; Polyakova, A. L.; Stepanov,
G. V.; Shklovskaya-Kordt, V. V. (Inst. Radiotekh. Elektron.,
Moscow, USSR). *Radiotekh. Elektron.* 1970, 15(1), 210-12
(Russ). The effect of a const. or alternating pressure from
corindon or glass needles on Shottky diodes obtained by sputter-
ing of a Au film on n-Si was studied. The mechanism of current
change is discussed, and the role of modifications of surface center
states is pointed out.
G. Thirot .

REEL/FRAME
19801980

USSR

UDC 615.371:576.851.42].015.4:612.015.6:577.164.2

KRATINOV, A. G., POLYAKOVA, A. M. and KHAR'KOVA, N. M., Scientific Research
Antiplague Institute of the Caucasus and Transcaucasus

"The Effect of Live Brucellosis Vaccine on Ascorbic Acid Levels in Animal
Organs"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971,
pp 146-147

Abstract: The distribution of ascorbic acid was studied in mice, rats, and guinea pigs after a single subcutaneous injection of live brucellosis vaccine from strains 19-BA and 104-M. The vaccine caused considerable shifts in the animals' ascorbic acid metabolism. The ascorbic acid level dropped, for example, in the adrenals and myocardium of mice and rats while rising in the skeletal muscles. In the guinea pigs, vaccination decreased the ascorbic acid concentration of the adrenals, spleen, and lungs while increasing it in the thymus and myocardium. These shifts are regarded as a protective-adaptive response to antigenic stimulation and should be compensated in vaccinated humans with supplemental doses of vitamin C.

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Acc. Nr.

AP0045179

Abstracting Service:
CHEMICAL ABST.

5-70

Ref. Code

UR0191

91225c Physicomechanical properties of adhesive cyanacrylate compositions. Korshak, V. V.; Polyakova, A. M.; Mager, K. A.; Semvantsy, V. N.; Askadskii, A. A.; Gerashchenko, Z. V. (USSR). *Plast. Massy* 1970, (1), 44-5 (Russ). Adhesive compns., e.g., Et α -cyanoacrylate (I), Pr α -cyanoacrylate, Bu α -cyanoacrylate, and allyl α -cyanoacrylate were modified with plasticizers and thickening agents. Addn. of 20% ethylene glycol dimethacrylate or diallyl phthalate reduced the elastic modulus of poly(ethyl α -cyanoacrylate) (II). Addn. of 20% di-Bu phthalate and 10% II to I compns. gave adhesives of superior adhesive bond strength and low elastic modulus. Some monomers were also effective as plasticizers of adhesive compns. Best results were obtained with 20% Et α -cyanosorbate. CKJR

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REEL/FRAME

19780079

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USSR

UDC 541.64:547.257.1

VINOGRADOVA, S. V., KORSHAK, V. V., VINOGRADOVA, O. V., POLYAKOVA, A. M.,
ANISIMOV, K. N., and KOLOBOVA, N. YE., Institute of Metal Organic Compounds,
Acad. Sc. USSR

"Synthesis of Manganese Polydibutylphosphinate"

Moscow, Vysokomolekulyarnyye Soyedineniya, Vol 15, No 3, Mar 73, pp 516-520

Abstract: Manganese polydibutylphosphinate has been synthesized by oxidative decarbonylation of manganese carbonyl with dibutylphosphinic acid under UV irradiation, and by polycondensation of dibutylphosphinic acid with manganese and manganic acetates. The effect of the type of solvent used, the temperature and duration of the reaction, as well as the effect of concentration and relationship of starting materials on the polycoordination process of dibutylphosphinic acid and manganese acetate has been investigated. The process of the polycondensation of manganese acetate with dibutylphosphinic acid is an equilibrium process.

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POLYAKOVA, A.P.

SPRS 56,499
14 May 72

23

PHYSIOLOGIC REACTIONS OF COSMONAUTS REGISTERED DURING
FLIGHT OF THE "SOYUZ-9" SPACESHIP

Article by A. A. Butanov, A. D. Yegorov, V. R. Lyomin, A. P. Polyakova and I. R. Sviridov, Moscow, Akademiya Voennoy Komendatsy Biologii i Meditsiny (Current Problems in Space Biology and Medicine), Moscow, 1971, pp 36-39

The principal peculiarities of flight of the "Soyuz-9" spaceship were its great duration (18 days) and saturation of the flight program with different kinds of scientific investigations. In this connection it is of great interest to consider data on the physiologic reactions of the crew members during prolonged exposure to spaceflight factors.

In addition to the earlier described sources of information on the health of these cosmonauts (Ye. I. Vorob'yev, et al., 1969, 1970; Yu. G. Nefedov, et al., 1970), the reactions of the circulatory apparatus to a special functional test with a carefully measured standard physical load were registered during this flight. In addition, an important place was given to medical self- and mutual monitoring which the cosmonauts carried out aboard the ship during the flight.

As on the earlier manned flights, in the crew members of the "Soyuz-9" ship the frequency of cardiac contractions after the ship had been put into orbit exhibited a well-expressed tendency to a decrease and already on the third-sixth revolutions attained mean values characteristic of the pre-flight period (70-75 beats per minute). Later this index for both cosmonauts persisted at lower levels, but during the last third of the flight had no statistically reliable difference from the data for one day prior to the flight. During the performance of dynamic operations (spinning, ship orientation, orbital corrections, etc.), as well as physical exercises and some experiments, in a number of cases there was a

POLYAKOVA, A. P.

PPRS 56499
14 JULY 72

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QUANTITATIVE EVALUATION OF PHYSIOLOGIC INDICES OF COSMONAUTS
DURING FLIGHT OF THE 'SOYUZ-6' - 'SOYUZ-8' SPACESHIPS

Article by L. V. Antonenko, A. A. Butusov, V. A. Berzhnev-
skaya, D. D. Iegorov, N. A. Ivanikhina, G. G. Ilyashova, V. R. Ilyashin, A. P. Polyakova, and I. B. Sviridov; Moscow. Aktual'nye Voprosy Kosmicheskoy Biologii i Meditsiny (Current Problems in Space Biology and Medicine), Moscow, 1971, pp 7-9/

In conducting medical monitoring an evaluation of the health of cosmonauts during spaceflight is made on the basis of information received during radio conversations and television contacts, by an analysis of the registered physiologic parameters and the microclimatic parameters in the manned compartments, by conducting medical self- and mutual monitoring, etc. (Ye. I. Vorob'yov, et al., 1969; 1970).

In the process of decoding the physiologic parameters the frequency of cardiac contractions and the respiration rate were ascertained and the principal indices of the electrocardiogram and seismocardiogram were measured.

The principal objectives of the quantitative evaluation and the statistical analysis of physiologic data were:

evaluating the significance of the influence of different flight factors on physiologic indices;

determining the direction of change of physiologic indices during different flight periods for different cosmonauts;

evaluating the dynamics of the mean values of the physiologic indices during different flight periods and the individual characteristics of the reactions of cosmonauts;

POLYAKOVA, A. P.

SPRS 66499
14 July 72

6

SOME RESULTS OF USING DISPERSION ANALYSIS FOR EVALUATING THE
PHYSIOLOGIC REACTIONS OF COSMONAUTS DURING FLIGHT OF THE
"SOYUZ-3", "SOYUZ-4" AND "SOYUZ-5" SPACESHIPS

Article by V. I. Antonova, A. A. Putanov, V. A. Dzerzhinskaya, A. D. Yeforov, N. A. Ivshina, G. G. Irtsova, V. B. Litvin, A. P. Polyakova and I. B. Syatunov; Moscow, Akademiya Voennoy Kosmicheskoy Biologii i Meditsiny (Current Problems in Space Biology and Medicine), Russian, 1971, pp 9-13/

During the space flight of the "Soyuz-3", "Soyuz-4" and "Soyuz-5" ships, radiotelemetric systems were used in registering such physiologic parameters as the electrocardiogram (ECG), splanchnicogram (SG) and pneumogram (PG). In processing this information it was possible to determine the frequency of cardiac contractions and the respiration rate and the principal ECG and SG indices for each cosmonaut were measured.

The collected data were grouped in accordance with the stages in training and conducting space flight. The following periods were discriminated:

preflight (PF) period, including data obtained in an examination of crews during ordinary work activity 15-20 days prior to the flight;

prelaunching, including the results obtained during the registry of physiologic parameters several hours prior to the launching (PL-1) and during the periods of the five-minute countdown (PL-2);

active segment (AS), the segment in which the spaceship is put into orbit;

orbital flight (OF);

descent segment (D).

Acc. Nr.
AP0037004

Ref. Code: UR 0239

PRIMARY SOURCE: Fiziologicheskii Zhurnal SSSR, 1970, Vol 56,
Nr 2, pp 165-171

CATECHOLAMINE DISTRIBUTION AND CONTENTS IN THE
HYPOTHALAMUS OF RATS WITH REGARD TO THEIR SEXUAL CYCLE
DURATION

Polyakova, E. I.

Lab. of Physiology and Pathology of the Endocrine System in man, I. P. Pavlov's Institute
of Physiology, Acad. Sci. USSR, Leningrad

Catecholamine distribution and contents in the hypothalamus of rats during different phases of the sexual cycle and after ovariectomy were studied as well as the various reserpine dosage effect on the catecholamine contents in the hypothalamus and on the sexual cycle. Catecholamines were shown to concentrate mainly in anterior and tuberal parts of the hypothalamus. The major catecholamine fluorescence was revealed in the paraventricular and supraoptic nuclei area, in the paraventricular area of anterior hypothalamus and in the internal area of the medial tuberosity.

Fluorescent and fluorometrical methods failed to reveal any difference in catecholamines during various phases of the sexual cycle and after ovariectomy. Administration of the reserpine in various dosage correspondingly affected noradrenalin amount in the hypothalamus of the rats and altered their sexual cycle.

REEL/FRA
19721936

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UDC 632.4.42/.49A/z

CHIGRIN, V. V., BESSMEL'TSEVA, L. M., POLYAKOVA, G. D., and ALESHIN, Ye. P.,
North Caucasus Scientific Research Institute of Phytopathology, Krasnodar

"Enzymatic Activity in Dormant and Germinating Uredospores of Puccinia
graminis f. tritici"

Moscow, Sel'skokhozyaystvennaya Biologiya, Vol 5, No 4, 1970, pp 591-594

Abstract: Respiratory activity and respiratory rate were determined in moist uredospores of the agent of wheat stem rust after germination for 18 hours. The intensity of oxygen uptake by homogenates and intact spores in the presence of sodium linolate, sodium ascorbate, cytochrome C, phloroglucinol, and gallic, caffeic, and protocatechuic acids, as well as in the presence of sodium azide and sodium diethyldithio-carbamate was measured in dormant uredospores before and 18 hours after the start of germination. Respiration of uredospores sharply increased when they were moistened but decreased after 18 hours' germination to the rate of dormant spores. These changes in respiratory rate indicate that in the course of germination fats are utilized first and then carbohydrates. Copper-containing terminal oxidases play an important part in oxygen uptake by the uredospores, and the activity of these enzymes increases appreciably

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CHIGRIN, V. V., et al, Sel'skokhozyaystvennaya Biologiya, Vol 5, No 4, 1970, pp 591-594

during germination. The ability of the spores to oxidize caffeic and proto-catechuic acids and the large quantity of these acids in the spores suggest that there is an alternative mode of terminal oxidation through the polyphenol-polyphenoloxidase system.

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1/2 034 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--FORMATION OF CHARGED AND EXCITED PARTICLES IN COLLISIONS BETWEEN
NOBLE GAS IONS OR ATOMS AND HYDROGEN MOLECULES -U-
AUTHOR--(05)-POLYAKOVA, G.N., GUSEV, V.A., YERKA, V.F., FOGEL, YA.M., ZATS,
A.V.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 4, PP 1186-1196
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--EXCITATION CROSS SECTION, PARTICLE COLLISION, GAS IONIZATION,
HYDROGEN, EMISSION SPECTRUM, INERT GAS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1988/1485

STEP NO--UR/0056/70/058/004/1186/1196

CIRC ACCESSION NO--AP0106241

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0106241

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTIVE CROSS SECTIONS FOR H SUB2 PRIME POSITIVE AND H PRIME POSITIVE PRODUCTION IN COLLISIONS BETWEEN 3-40KEV HE, NE AND AR IONS OR ATOMS AND H SUB2 MOLECULES ARE MEASURED BY THE MASS SPECTROMETER TECHNIQUE. THE EFFECTIVE CROSS SECTIONS FOR THE H SUBALPHA AND H SUBBETA EXCITED LINES OF THE BALMER HYDROGEN SERIES AND FOR SOME SPECTRAL LINES OF HE, NE AND AR ATOMS AND IONS ARISING IN COLLISIONS BETWEEN 0.1-30 KEV ATOMS AND IONS OF THE SAME NOBLE GASES AND H SUB2 MOLECULES ARE MEASURED BY THE MASS SPECTROSCOPIC TECHNIQUE. THE RESULTS OF THE MEASUREMENTS SHOW THAT MANY SIGMA (UPSILON) CURVES (SIGMA IS THE EFFECTIVE CROSS SECTION FOR A CERTAIN COLLISION PROCESS AND UPSILON IS THE RELATIVE VELOCITY OF THE COLLIDING PARTICLES) EXHIBIT PEAKS IN THE REGION OF SMALL IMPINGING PARTICLE ENERGIES. THE PEAKS CANNOT BE EXPLAINED ON THE BASIS OF THE MASSEY ADIABATIC CONDITION. POSSIBLE CAUSES OF THE PEAKS ARE DISCUSSED.

FACILITY: FIZIKO-TEKHNICHESKIY INSTITUT AN UKRAINSKOY SSR.

UNCLASSIFIED

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FCGEL', Ya. M.: POLYAKOVA, G. N.; et al (Physics-Engineering Institute,
Ukrainian Academy of Sciences)

"Formation of Charged and Excited Particles during Collisions of Ions and Atoms
of Inert Gases with Hydrogen Molecules"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki; April 1970; pp 1186-96

ABSTRACT: By means of mass spectroscopic methods the authors measured the effective cross sections of the formation of H_2^+ and H^+ ions occurring during collisions of 3 to 40-kev ions and atoms of He, Ne, and Ar with H_2 molecules. During collisions of 0.1 to 30-kev atoms and ions of these inert gases with H_2 molecules the effective excitation cross sections of the H_α and H_β lines of the Balmer series of hydrogen and certain spectral lines of atoms and ions of He, Ne, and Ar were measured by means of spectroscopic methods. The results of the measurements show that many curves $\sigma(v)$ (σ is the effective collision cross section, v is the relative velocity of the colliding particles) in the region of small velocities of the incident particles have maxima which cannot be explained on the basis of the Massey adiabatic criterion. The possible causes of the occurrence of these maxima are discussed.

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USSR

FOGEL, Ya. M; POLYAKOVA, G. N., Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki;
April 1970, pp 1186-96

The article includes three equations and three figures. There are also two tables. Table 1 shows 11 different atomic and ionic reactions which take place. Table 2 lists the maximum velocities which occur. There are 20 references.

2/2

USSR

UDC 576.858.8

RAZVYAZKINA, G. M., and POLYAKOVA, G. P., All Union Scientific Research Institute of Phytopathology, Bol'shiye Vyazeny, Moskovskaya Oblast'

"Electron Microscope Study of Winter Wheat Mosaic Virus in Its Carrier -- *Psammotettix striatus* L."

Moscow, Doklady Akademii Nauk SSSR, Vol 193, No 5, 1970, pp 1171-1173

Abstract: An attempt was made to localize winter wheat mosaic virus particles in individual organs of its carrier (*Ps. striatus* L.). Virus-specific particles of bacillary form were found in ultrafine sections of salivary glands of the carrier. Virus particles were localized in channels of the endoplasmatic reticulum near membrane structures resembling laminated cytosomes, and inside vacuole-like structures (the intracellular channels). In addition to the bacillary particles, which are also found in infected wheat plants, elongated spiral structures (which in some cases become quite dense), surrounded by thread-like material, were found in the salivary glands. These structures sometimes appear to be fragmented. Morphologically, these new particles are identical with particles found in winter wheat plants infested with mosaic virus. It is proposed that the accumulation and fragmentation of the observed particles represent various stages of virus formation in these cells.

1/1

USSR

UDC: 669.01:620.181.001.5

PASHKOV, P. O., POLYAKOVA, I. I.

"Surface Phenomena Upon High-Speed Collision of Metals"

Moscow, Doklady Akademii Nauk SSSR, Vol 204, No 2, 1972, pp 332-334.

Abstract: Earlier works have established that after the shock wave created when a plate is impacted by an explosive charge, high-temperature phases (austenite in iron and beta-titanium in titanium) are found at depths of up to 30 μ in the surface layer of specimens of armco iron and technically pure titanium. This report studies the results of investigation of the surface layers of various metals following high-speed collision. The experiments were performed in an atmosphere of argon at liquid nitrogen temperatures. The results produced indicate complex phenomena in the surface layers upon high-speed collision of iron, cobalt, zirconium, titanium, and nickel.

1/1

1/2 017 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SILICON CONTAINING FERROCENE POLYMERS -U-
AUTHOR--(04)-VISHNYAKOVA, T.P., GOLUBEVA, I.A., SAPUNTSOVA, N.D.,
POLYAKOVA, I.P.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 265,444
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATSY, TOVERNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANOSILICON COMPOUND, FERROCENE, ORGANIC SILANE, MERCURY
COMPOUND, CHEMICAL PATENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/1756 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0136996

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0136996

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE POLYMERS ARE PREPD. BY
POLYCONDENSING 1,1 PRIME,BIS(HALOMERCURY)FERROCENE WITH DISUBSTITUTED
SILANES AT 20-150DEGREES. FACILITY: MOSKOVSKIY INSTITUT
NEFTEKHIMICHESKOY I GAZOVY PROMYSHLENNOSTI IM. I. M. GUBKINA.

UNCLASSIFIED

POLYAKOVA, L.A.

CHEMICAL TRANS

SINGLE-ELECTRON TRANSFER AND CHEMICAL TRANSFORMATIONS
(Conference in Rostov-on-Don)

[Article by Candidate of Chemical Sciences Z. V. Todres, Moscow
Vserkiz Akademi Nauk SSSR, Russian, No. 8, 1972, pp. 107-109]

A conference on the...
... 1973, pp

A conference on the role of electron transfers in chemical reactions was held in Rostov-on-Don on 22-25 May. It was organized by the Northern Caucasus Scientific Center of the Academy of Sciences of the USSR. About 40 reports were presented. Participating in the conference were the leading chemical institutes of the Leningrad and Gorkiy universities, and also Rostov-on-Don, Moscow, and other cities.

Chemical reactions are usually regarded as the rupture and formation of bonds, that is, the rearrangement of the placement of atoms or atomic arrangements, however, that the transfer of electrons from one of the reacting molecules to the other. The study of this stage, which has become possible through the use of new instrumental methods of investigation, especially of electron paramagnetic and nuclear magnetic resonance, expands concepts of the reaction mechanism as a sequence of elementary stages known to us.

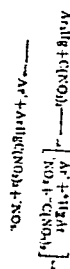
As a result of electron transfer new particles appear, not known to organic chemistry of the past. The properties of these products were examined in a number of reports. Hemoglobin, cytochrome c and other enzymes with Fe(II) after electron transfer give non-equilibrium forms with Fe(III) after electron transfer into the stable Fe(III) but the protein part still retains over 94% dinitro-cis-stilbene configuration (P. M. Dvorydy). The transformation by complete cis-trans-isomerization of an anion-radical is accompanied by complete cis-trans-isomerization. Destruction is accompanied of the molecule leads to establishment of equilibrium: 4-nitro-cis-stilbene in the presence of electron transfer to 4-nitro-

5-143- JRS 60661, 30 Nov 73

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NO_2 , but mainly leaves the CO_2 and cleaves the hydrogen from the solvent

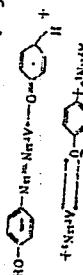


The aryl(triethylmercury) mercury, as is evident from the formula, forms through combination of the (triethylmethyl)carbanion with the aryl mercury cation.

It is known that the reaction of alkoxy ions and poly-nitrocarbanions with perchlorofluoride leads to the corresponding fluoro- and chloro-derivatives. L. V. Okhobystina et al. showed that in that reaction the initial phase is a single-electron transfer, leading to the anion-radical (ArO_2^-) and the alkoxy-radical or radical of the polynitro compound: ArO_2^- and the alkoxy-radical. In another well-known reaction -- ionic hydrogenation, during the reaction of carbocations with triethylsilane there is a displacement of the hydride ion and the formation of the corresponding product of the hydrogenation. Hexachloranthracene at triphenylhexachloranthracene of tris(pentachlorophenyl)-carbanion is introduced into the reaction, the end product proves to be the free tris(pentachlorophenyl)methyl radical. The first stage of the reaction of silane with the carbanion ion evidently is a single-electron transfer with the formation of the radical pair carbon-radical -- silane cation-radical. If the formed carbon-radical is highly reactive, it reacts with the silane cation-radical in the cell of the solvent, giving the hydrogenation product. But if the radical has low reactivity, the process ends in the stage of electron transfer.

The participants in the conference noted the role of the formation of molecular complexes in reactions with electron transfer. I. A. Lyudskanov and G. B. Sergeyev have established that tetraethylmercury forms with trifluoromethyl-substituted compounds of homolytic decomposition (which is equivalent to electron transfer). In the dark that reaction proceeds slowly and is controlled only by thermal factors. During intense irradiation with light with a wavelength corresponding to the absorption band of the complex the process is completed in several seconds. The components of the complex, taken separately, do not change photochemically. G. V. Romil et al. studied the reaction of quinones with salts of aryl diazonium. The obtained results indicate that the active center which reacts with the diazonium cation is the quinone radical; the arylation of quinones proceeds by a

O. Yu. Orlovskiy, N. N. Zubov et al arrived at the conclusion that the aromatic hydrocarbons forming from aryl diazonium salts under the effect of donor compounds have a π - π^* origin. According to the data of I. P. Grigorov and A. P. Levitskiy, the kinetics of the reaction of diazonium salts with hydroparaphenous acid can be described by equations of classical radical-chain processes, which include the stages of initiation, propagation and termination of the chains. For ultraviolet absorption symbolically (B. A. Kadyshin). It can be assumed that in the presence of nitrogen coupling at first there is electron transfer, and later the reaction of radicals to form the azo dye. A. Polynova, K. A. Bilevich et al used the method of heteronuclear resonance of ^{15}N to control the reaction of azo dye with sodium phenolate in an acetone-methyl alcohol mixture. In the first moments after the solutions were mixed a strong positive polarization of the signals belonging to the dye was observed. The signal from the starting diazonium salt also was polarized. They consider that this indicates reversibility of the first stage of the following equation:



The role of electron transfers proves to be deciding also for another heterolytic reaction -- nucleophilic substitution of an aromatic carbon atom. S. M. Shemyagin, A. V. Ryukhovskaya et al substantiated the scheme of transformation of p-nitrochlorobenzene into p-nitroanisole, which takes into consideration the presence in the reaction mixture of anion-radicals of the initial end products and also includes acts of chain transfer through electron exchanges. An important feature of the scheme is that it organically combines newly formulated concepts with already known ones, leading in the end to the usual precursor of the substitution product -- a sigma-complex. Consequently, heterolytic reactions are not purely ionic, but they cannot be regarded as purely radical.

The participants in the conference emphasized that revelation of the role of electron transfers is a very important task, as it permits more profoundly understanding the essence of chemical transformations and, on the basis of that, more correctly selecting the conditions of reactions and increasing the yield of useful products.

1/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--TWO TYPES OF UNDULATING MOVEMENTS OF CHICK EMBRYO IN THE AMNIOTIC
FLUID -U-
AUTHOR--POLYAKOVA, L.A.
COUNTRY OF INFO--USSR
SOURCE--BYULLETen' EKSPERIMENTAL' NOY BIOLOGII I MEDITSINY, 1970, VOL 69,
NR 5, PP 27-31
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BIRD, EMBRYOLOGY, MUSCULOSKELETAL SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAmE--3005/0367

STEP NO--UR/0219/70/069/005/0027/0031

CIRC ACCESSION NO--AP0132596

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132596

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DURING THE INVESTIGATION OF UNDULATING MOVEMENTS OF THE CHICK EMBRYO IT WAS ESTABLISHED THAT, APART FROM MOVEMENTS WITH A FREQUENCY OF 6-20 PER MINUTE CAUSED BY CONTRACTIONS OF THE AMNION (5TH-14TH DAY OF INCUBATION), THERE ARE ALSO SEEN SLOWER MOVEMENTS WITH A FREQUENCY OF 1-3 PER MINUTE. THE LATTER ARE ALSO OBSERVED FROM THE 5TH DAY OF INCUBATION AND CONTINUE UNTIL COMPLETE SUCTION OF THE YOLK SAC PRIOR TO HATCHING. MUSCLE RELAXANTS (D TUBOCURARINE AND DITILINE) ACT DIFFERENTLY ON CONTRACTIONS OF THE FIRST AND SECOND TYPES. THESE DATA ENABLED TO ARRIVE AT THE INFERENCE ON THE DIVERSE NATURE OF SOURCES OF THESE MOVEMENTS AND GIVE GROUNDS TO ASSUME THAT THE SECOND TYPE OF MOVEMENTS IS ASSOCIATED WITH CONTRACTIONS OF THE SKELETAL MUSCULATURE OF THE EMBRYO PROPER. FACILITY: I. M. SECHENOV INSTITUTE OF EVOLUTIONAL PHYSIOLOGY AND BIOCHEMISTRY OF THE ACADEMY OF SCIENCES OF THE USSR, LENINGRAD.

UNCLASSIFIED

USSR

UDC 577.4

BARASHENKOV, V. V., and POLYAKOVA, L. F.

"On the Diagnosis of Microprogrammed Automata"

Izv. Leningr. elektrotekhn. in-ta (Bulletin of Leningrad Electrical Engineering Institute), 1972, vyp. 118, part 1, pp 115-120 (from RZh-Matematika, No 3, Mar 73, Abstract No 3V443 by Kh. M.)

Translation: The article considers the problem of diagnosing microprogrammed automata in the event of a single fault of the constant 0.1 type. A relation is found between the matrix of unions of the initial automaton and the defective automaton.

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USSR

BARASHENKOV, V. V., POLYAKOVA, L. F.

"The Problem of Diagnosis of Microprogrammed Automata"

Izv. Leningr. Elektrotekhn. In-ta. [Works of Leningrad Institute of Electric Engineering], 1972, No 118, Part 1, pp 115-120 (Translated from Referativnyy Zhurnal, Kibernetika, No 3, Moscow, 1973, Abstract No 3 V443 by Kh. M.).

Translation: The problem of diagnosis of microprogrammed automata is studied for the case of an individual defect similar to constant 0.1. The relationship between the matrix of connections of the initial automaton and the defective automaton is determined.

1/1

USSR

UDC 678.84.01:537

BAZHENOVA, T. S., PAKHOMOV, V. I., ZHDANOV, A. A., POLYAKOVA, L. L.,
SMIRNOVA, L. N., EKSANOVA, N. D., and TARASOV, Ye. V.

"Electric Properties of the Epoxyorganosilicon Resin ES-9 and Compounds
Based on This Resin"

Moscow, Plasticheskiye Massy, No 2, 1973, pp 21-23

Abstract: Results are reported of the study of electric properties of the compounds based on dianic resin ED-5, polyfunctional resin ETP and epoxy-siliconorganic resin TPE-9 containing triphenylpentamethoxytrisiloxane [resin ES-9]. It was shown that the ES-9 resin is a good, active solvent for compounds based on any epoxy resin prepared for electrotechnical utilization. The ES-9 resin lowers considerably the starting viscosity of the epoxy binder preserving at the same time all of the desired electric properties of epoxy compounds both under normal usage as well as during prolonged heating, increased humidity, and elevated temperature.

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Combustion

USSR

UDC 541.1.13

TESNER, P. A., POLYAKOVA, M. M., MIKHEYEVA, S. S., All-Union Scientific Research Institute of Natural Gases, Moscow

"Kinetics of Pyrocarbon Formation During the Thermal Decomposition of Methane"

Moscow, Doklady Akademii Nauk SSSR, Vol 203, No 2, 1972, pp 402-405

Abstract: An experimental study was made to establish the order of the reaction of the formation of pyrocarbon during thermal decomposition of methane in the pressure range of 1-760 mm Hg. The experimental procedure and results are presented. Graphs are included showing the ratio of the actual hydrogen concentration to the concentration calculated by the reaction $\text{CH}_4 \rightarrow \text{C} + 2\text{H}_2$ at a temperature of 800°, the relative rate of formation of pyrocarbon from the binary mixture of methane and hydrogen at 800°, and the rate constants for the formation of pyrocarbon from methane determined at atmospheric pressure and $E = 66$ kcal/mole and obtained by extrapolation of the methane pressure to zero with $E = 78$ kcal/mole. The results obtained differ from those observed earlier [P. A. Tesner, et al., Tr. Vsesoyuzn. n.-i. inst. prirodn. gaza, Pererabotka i ispol'zovaniye prirodnogo gaza, No 40/48, 8, 1969]. At atmospheric pressure the hydrogen inhibition turned out to be appreciably less than in the presence of a vacuum. The Langmuir equation constant in a vacuum was 1,500, and at 1/2

USSR

TESNER, P. A., et al., Doklady Akademii Nauk SSSR, Vol 203, No 2, 1972, pp 402-405

atmospheric pressure, 45. The observed disturbance of the first order at low methane pressure led to an increase in the first order constants obtained by extrapolation to zero pressure in the aforementioned paper by comparison with the constants found at atmospheric pressure in the present experiment. The mechanisms explaining these differences and the other experimental results are discussed in detail.

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- 7 -

USSR

UDC 541.1.13

GORODETSKIY, A. Ye., TESNER, P. A., LUK'YANOVICH, V. M., POLYAKOVA, N. M.,
ZAKHAROV, A. P., and YAGMIN, A. G., Institute of Physical Chemistry, Acad.
Sc. USSR, All Union Scientific Research Institute of Natural Gasses, Moscow

"The Structure of Thin Pyrocarbon Films Obtained From Methane"

Moscow, Doklady Akademii Nauk SSSR, Vol 203, No 6, Apr 72, pp 1336-1338

Abstract: Structure of pyrocarbon films obtained from methane under known growth kinetics has been studied. Platinum and polished quartz were used as bases, yielding two types of films. Films on quartz consist of relatively homogeneous finely crystalline pyrocarbon with low degree of tridimensional ordering. The films on platinum are heterogeneous with two distinct structures: finely crystalline and crystalline. The first resembles the films on the graphite - the second is a well ordered tridimensional graphite. The structure of the film depends on the pressure of methane: lowering the pressure favors formation of graphite crystals. The observed difference in the type of film, depending on the base, is due to the competition between the seeding and propagation processes: on quartz they are about equal, on platinum the seeding rate changes from sample to sample and is a function of pressure. It is proposed that pyrocarbon film formation is due to a direct decomposition of methane molecules on the surface of the base.

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CSO: 1841-W

- END -

1/2 023 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ON MUTUAL SYNCHRONIZATION IN A CHAIN OF COUPLED AUTO OSCILLATORS
-U-
AUTHOR--(02)-POLYAKOVA, M.S., ROMANOVSKY, Y.M.
COUNTRY OF INFO--USSR
SOURCE--FIFTH INTERNATIONAL CONFERENCE ON NONLINEAR OSCILLATIONS, KIEV,
AUGUST 25TH-SEPTEMBER 5TH, 1969. ABSTRACTS OF PAPERS, KIEV, 1969, 267
DATE PUBLISHED-----70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--OSCILLATOR THEORY, COUPLING CIRCUIT, MATHEMATIC MODEL,
ELECTRIC ANALOG, CHEMICAL REACTION, FREQUENCY CHARACTERISTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/1253 STEP NO--UR/0000/69/000/000/0001/0267
CIRC ACCESSION NO--AT0133231
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0133231

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MUTUAL SYNCHRONIZATION IN A CHAIN OF COUPLED TOMSON'S TYPE OSCILLATORS IS STUDIED IN THE CASES OF SOFT AND HARD EXCITATION. THE METHOD OF STEP BY STEP ABRIDGEMENT PROPOSED BY R. V. CHICHLOV WAS APPLIED. ANALOGOUS AND DIGITAL COMPUTERS WERE USED. IT IS PERMITTED TO MODEL DISTRIBUTED AUTO OSCILLATORY CHEMICAL RESPONSES, TAKING PLACE IN ONE DIMENSIONAL REACTOR. IN THE CASE OF SOFT EXCITATION THE SINGLE STABLE MODE OF OSCILLATIONS EXISTS WHEN ALL OSCILLATORS ARE TUNED TO THE SAME FREQUENCY AND PHASE. IN THE CASE OF HARD EXCITATION, BESIDSE THE ABOVE MENTIONED MODE OF OSCILLATIONS, INDEPENDENT SYNCHRONOUS AUTO OSCILLATIONS OF SOME GROUPS OF OSCILLATORS ARE SEPARATED FROM EACH OTHER BY GROUPS OF UNEXCITED AUTO OSCILLATORS ARE POSSIBLE. IF, IN A CHAIN WITH FIXED COEFFICIENT OF COUPLING, AN OSCILLATOR IS DETUNED WITH RESPECT TO ALL OTHERS, THE BAND OF SYNCHRONIZING SUBSTANTIALLY DEPENDS ON ITS POSITION IN THE CHAIN. IT IS WORTH TO NOTE THAT THE BAND OF SYNCHRONIZING IN A RING OF N OSCILLATORS. WHEN CHAIN CONTAINS TWO NEIGHBOURING GROUPS OF OSCILLATORS WITH EQUAL PARTIAL FREQUENCIES INSIDE EACH GROUP, THE BAND OF SYNCHRONIZING IS THE LESS, THE CLOSER THE RATIO OF NUMBERS OF OSCILLATORS IN EACH GROUP TO UNIT.

UNCLASSIFIED

USSR

UDC 669.24.548.313.3 539.4

NOSOVA, G. I., and POLYAKOVA, N. A., Institute of Metal Science and Physics of Metals, Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"The Effect of Ordering in an Ni_3Mn Alloy on Critical Shear Stresses"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 35, No 3, 1973, pp 542-546

Abstract: The effect of ordering (S) produced by a low-temperature isothermal tempering (at 400°C for 25-300 hours) of Ni_3Mn samples (single crystals) on critical shear stresses (τ_c) which appear in samples subjected to mechanical tests at -196 to $+400^\circ\text{C}$ was studied. All samples were deformed at a rate from 0.2 to 20 mm/min during mechanical tests. Values of τ_c gradually increased from 0.2 to 0.8 kg/mm^2 for samples with a low degree of ordering, $S=0.13$ to 0.5 , and it remained almost without any changes up to $S=0.90$ at room temperature. An electron microscope study showed that singular dislocations dominate in a sample with $S=0.22$, but paired dislocations were dominant in samples with $S=0.90$. The antiphase boundary energy was the only strengthening mechanism in the Ni_3Mn alloy with $S=0.4$ in the presence of singular dislocations. When the ordering of the alloy was much higher, the deformation was produced by a paired dislocation. The temperature dependence of τ_c was similar to that observed in metals with a face-centered cubic lattice. The activation energy of Ni_3Mn alloys with $S=0.22$ and low τ_c was $\sim 0.8 \text{ eV}$; it was higher for samples with $S=0.90$.

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USSR

UDC 669.24 539.4

NOSOVA, G. I., and POLYAKOVA, N. A., Institute of Metal Science and Physics of Metals of the Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"Investigation of the Temperature Dependence of Hardening Characteristics of Single Crystals of Nimonic Aging Alloy"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 34, No 2, Aug 72, pp 638-643

Abstract: An experimental investigation was made of the temperature dependence τ_c of the magnitude of critical shearing stresses of the Nimonic aging alloy and of the strain hardening characteristics of this alloy with various sized particles of the ordered precipitation phase (γ' -phase) and different volumetric shares of the particles. The effects of the temperature of investigations and the crystallographic orientation of flat samples of the alloy containing (in at%) 72.2 Ni, 22.5 Cr, 3.2 Ti, and 1.6 Al on the strain hardening characteristics were investigated. The experimental results are shown in diagrams of strain hardening curves, the correlation of measured and calculated Δl data, and the temperature dependence of reduced hardening coefficients of Nimonic. The share of primary and 1/2

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NOSOVA, G. I., and POLYAKOVA, N. A., Fizika Metallov i Metallovedeniye, Vol 34, No 2, Aug 72, pp 638-643

conjugated systems of sliding in the deformation of samples of different orientations is discussed. By analogy with the yield point, the hardening at the expense of the ordered precipitation phase must comprise the principal part of the athermic hardening component during deformation. Four figures, one table, twelve bibliographic references.

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USSR

UDC: 669.24:548.313.3

NOSOVA, G. I. and POLYAKOVA, N. A., Institute of Metal Studies and Physics of Metals; Central Scientific Research Institute imeni I. P. Bardin (TsNIICM)

"Effect of Ordering on the Critical Shearing Stresses in the Ni_2Cr Alloys"

Sverdlovsk, Fizika metallov i metallovedeniye, Vol 32, No 4, Oct 71, pp 825-830

Abstract: The nature of the motion of dislocations in an ordered alloy determines their behavior in the stress field and governs the course of dislocation reactions affecting the principal mechanisms of plastic deformation which, in turn, results in property changes. A more accurate definition of the effect of ordering on the properties of alloys necessitates the study of the mechanical properties of single crystals in ordered alloys along with a study of their structure. This study concerns the effect of ordering on the magnitude of critical shearing stresses of single crystals in the Ni_2Cr alloy. It is shown that an increase in the power of the order of magnitude increases the shearing stresses of the alloy as high as 2.5

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USSR

NOSOVA, G. I., et al, Fizika metallov i metallovedeniye, Vol 32, No 4,
Oct 71, pp 825-830

times those of a disordered solid solution. The ordering reveals the slight dependence of shearing stresses on orientation. Analysis of the experimental data gives rise to the conclusion that the deformation of the experimental alloy at all stages of ordering is accomplished through the motion of single dislocations. (3 illustrations, 12 bibliographic references).

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1/2 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--ALLO AND ISOALLOXAZINES. XXIV. SYNTHESIS OF 6,7-DIAMINOALLOXAZINE
AND NEW TETRACYCLIC SYSTEMS -U-

AUTHOR--(05)-TULCHINSKAYA, L.S., KLEBANOVA, V.D., POLYAKOVA, N.A.,
DVORYANTSEVA, G.G., BEREZOVSKIY, V.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 868-73

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--HETEROCYCLIC NITROGEN COMPOUND, POLYNUCLEAR HYDROCARBON,
AMINE, FLUORESCENCE, UV LIGHT, IMIDAZOLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3002/1183

STEP NO--UR/C079/70/040/004/0868/0873

CIRC ACCESSION NO--AP0128603

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128603

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. TO 1 G ALLOXAN IN 2N HCL WAS SLOWLY ADDED 3.5 G 1,2,4,5,6 SUB6 H SUB2 (NH SUB2) SUB4 SULFATE IN 2N HCL AND THE MIXT. HEATED 0.5 HR TO GIVE 79.5PERCENT 7,8,DIAMINGALLOXAZINE (I), M. LARGER THAN 300DEGREES. THIS (0.1 G) AND 0.6 ML HCO SUB2 H IN 1.5 ML CONCD. HCL AND 3.5 ML H SUB2 O REFLUXED 2 HR AND ADJUSTED WITH NH SUB4 CH TO PH 6-7 GAVE 74PERCENT IMIDAZO(4,5,1)ALLOXAZINE, ISOLATED AS YELLOW HCL SALT, M. LARGER THAN 300DEGREES. I HEATED 6 HR WITH ACCL,ACOH OR AC SUB2 O,ACOH GAVE 68PERCENT 2,METHYLIMIDAZO(4,5,1)ALLOXAZINE (II), ISOLATED AS PERCHLORATE, M. LARGER THAN 300DEGREES, AS RED CRYSTALS; HCL SALT, AMORPHOUS BROWN SOLID. I AND NANO SUB2 IN AQ. HCL GAVE IN 24 HR 82.7PERCENT TRIAZOLE(4,5,1),ALLOXAZINE, M. LARGER THAN 300DEGREES. I IN ME SUB2 SO KEPT 3 HR WITH AC SUB2 O GAVE RED ORANGE 6,ACETAMIDO,7,AMINOALLOXAZINE. THE IMIDAZOALLOXAZINES GAVE YELLOW GREEN FLUORESCENCE IN UV LIGHT. HEUCKEL ANAL. OF ELECTRONIC DISTRIBUTION IN THESE COMPS. WAS MADE AND PLOTS OF ELECTRON O. WERE SHOWN. THE RESULTS INDICATED THAT THE AMINO GROUP IN THE 7 POSITION IS MOST LIKELY TO BE ACYLATED FIRST IN I; THIS WAS CONFIRMED AS SHOWN ABOVE.

FACILITY: VSES. NAUCH. ISSLED. VITAMIN. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

POLYAKOVA, N. M., YERSHOV, Yu. N.

"Representation of a Control Algorithm in a Form Convenient for Digital Computer Realization"

Resheniye Nekotor. Fiz.-tekhn. Zadach. [Solution of Certain Problems of Physics and Technology -- Collection of Works], Dnepropetrovsk, 1972, pp 175-177. (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V840).

Translation: This work demonstrates the possibility of representing a certain control algorithm in a form convenient for digital computer realization.

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USSR

UDC 577.1:612.8.015.547.96

PALLADIN, A. V., BELIK, YA. V., and POLYAKOVA, N. M.

Belki golovnogo mozga i ikh obmen (Protein Metabolism in the Brain), Kiev, 1972, 316 pp

Translation:

Annotation

The book reviews the literature and the results of the authors' studies on protein metabolism in different divisions of the central nervous system in different functional states of the body. It examines the role in the blood-brain barrier in membrane transport of amino acids and in the formation of amino acid reserves in brain tissues. The book briefly considers the main stages and principal directions of research on protein metabolism in the central and peripheral nervous systems. It also describes the most important morphological, functional, and biochemical characteristics of nervous tissue responsible for the specific nature of the metabolic processes therein.

The book is intended for biochemists, physiologists, specialists in age-related biology, and physicians. It can be used by graduate students and by students taking advanced courses in the aforementioned specialties.

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USSR

PALLADIN, A. V., et al., Belki golovnogo mozga i ikh obmen, 1972, 316 pp

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1/2 016 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--PHOTOGRAPHIC FILMS WITH INCREASED SENSITIVITY IN THE VACUUM
ULTRAVIOLET SPECTRAL REGION -U-
AUTHOR--(041)-BOGDANOV, S.G., GINDENBERG, N.O., POLYAKOVA, N.V.,
GRATSIANSKAYA, Z.I.
COUNTRY OF INFO--USSR
SOURCE--ZH. NAUCH. PRIKL. FOTOGR. KINEMATOGR. 1970, 15(2), 126-9
DATE PUBLISHED-----70
SUBJECT AREAS--METHODS AND EQUIPMENT
TOPIC TAGS--PHOTOGRAPHIC FILM, UV SPECTRUM, PHOTOGRAPHIC CHEMISTRY,
PHOTOGRAPHIC EMULSION, OPTIC INSTRUMENT/(U)FSK9 SPECTROSENSITOMETER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1691 STEP NU--UR/0077/70/015/002/0126/0129
CIRC ACCESSION NO--AP0118669
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118669

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THREE AG (I, BR) EMULSIONS WITH VARIOUS PROPERTIES WERE USED. THE FILMS WERE PREPD. WITH A HORIZONTAL CENTRIFUGE AND THEN EXPOSED IN A FSR-9 SPECTROSENSITOMETER BETWEEN 436 AND 254 NM. THEY WERE DEVELOPED BY A 5 TIMES DIL. D-19 DEVELOPER AT 20DEGREES WITH THE ADDN. OF BENZOTRIAZOLE TO LIMIT FOGGING. THE SENSITIVITY OF ALL FILMS INCREASED SOMEWHAT WITH DECREASING WAVELENGTH OF THE INCIDENT RADIATION. THE SENSITIVITY WAS HIGHER BY ONE ORDER OF MAGNITUDE, AND THE CONTRAST COEFF. WAS HIGHER THAN IN PLATES COATED CONVENTIONALLY WITH THE SAME EMULSIONS. IN THE FAR UV REGION THE SENSITIVITY WAS MUCH HIGHER THAN IN THE CONTROL UF-2T FILM AND WAS EQUAL TO THE SENSITIVITY OF THE FILMS SC-5 AND SC-7. THE APPLICATION OF THE EMULSION LAYER BY CENTRIFUGATION IS A PROMISING METHOD.

UNCLASSIFIED

USSR

UDC 595.771

POLYAKOVA, P. Ye., Biological Institute, Siberian Branch of the USSR Academy of Sciences, Novosibirsk

"*Aedes fitchii* Felt et Young, a Species of Mosquito, New to the Fauna of the USSR"

Leningrad, Parazitologiya, Vol 4, No 4, Jul/Aug 70, pp 389-391

Abstract: This new species was first found along the center stretches of the Anadyr and Kolyma rivers. The distribution and physical appearance of the species, which had previously been reported in Canada, Alaska, and the northern United States, are briefly described. Mosquitoes were first reported in the middle of June 1966 and 1967 in the Magadansk region. Females favor forest boundaries and open spaces. Both men and animals are attacked by this species.

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Entomology

USSR

UDC 576.895.77(571.65)

POLYAKOVA, P. Ye., GOMOYUNOVA, N. P., KIR'YASHKINA, L.A., and LEVINA, L. F.
Biological Institute, Siberian Branch of the Academy of Sciences USSR,
Novosibirsk

"Blood-Sucking Mosquitos (Diptera, Culinae) of the Omolon River Basin"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Biologicheskikh Nauk, Vol 1, No 5, Apr 70, pp 93-98

Abstract: The phenology of imago and mature phases of mosquitoes and their larvae was studied in the basin of the middle section of the Omolon river. It was a rainy summer in 1968, and the mean temperature was 13.3°C. Only rarely was there a warm day with a temperature of up to 26°C. Seventeen mosquito species were studied, including their distribution and swarming in May-August. The mosquitoes attacked man in daily cycles. The greatest activity was observed during the morning and evening hours. Swarming of the species *A. communis* and *A. pullatus* takes place in the evening hours, and of *A. nigripes* in the daytime. Swarming lasts several hours, particularly in quiet weather at an atmospheric temperature of 8.5-16.5°C, and at a relative humidity of 77-85 percent.

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USSR

UDC 621.039.53

SUKHOTIN, A. M., LANTRATOVA, H. YA., MATUSEKIN, V. A., POLYAKOVA, R. YE.,
LATERNER, S. A.

"Strength of Building Materials in N_2O_4 at High Temperatures and Pressures"

Dissotsiiruyushch. gazy kak teplonositeli i rab. tela energ. ustanovok -- V sb.
(Dissociating Gases as Heat Transfer Agents and the Working Medium of Power
Plants -- Collection of Works), Minsk, Nauka i Tekhn. Press, 1970, pp 122-130
(from RZh-Elektrotekhnika i Energetika, No 5, May 1971, Abstract No 5U180)

Translation: Results are presented from a study of the strength of building materials in N_2O_4 at temperatures to 700° C and pressures to 150 absolute atmospheres under static conditions. A loss in weight is observed at a temperature of 100° C for all the tested materials. On making the transition to higher temperatures, the losses of weight of all the materials decrease and are gradually replaced by an increase in weight. The surface of the stainless steel samples is covered with dense oxide films. Increasing the pressure increases the corrosion rate by tens of times. There are 5 illustrations, 4 tables and a 3-entry bibliography.

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USSR

UDC 536.7

SUKHOTIN, A. M., LANTRATOVA, N. YA., MATUSHKIN, V. A., POLYAKOVA, R. YE.,
and LATERNER, S. A.

"Strength of Structural Materials in N_2O_4 at High Temperatures and Pressures"

Dissotsiiruyushch. Gazy kak Teplonositeli i Rab. Tela Energ. Ustanovok
(Dissociating Gases as Heat Transfer Media and Working Fluids of Power
Installations — collection of works), Minsk, Nauka i Tekhn. Press, 1970,
pp 122-130 (from Referativnyy Zhurnal-Yadernyye Reaktory, No 4, 1971,
Abstract No 4.50.136)

Translation: In connection with the possibility of using N_2O_4 as a coolant
for an atomic power plant, the corrosion resistance of structural materials
is studied in an equilibrium mixture of gaseous oxides of nitrogen at tem-
peratures up to $700^\circ C$ and pressure up to 150 atm. Tests of the corrosion
resistance of metal materials in N_2O_4 under static conditions were performed
at temperatures of 100 and 500° and pressures of 20 and 50 atm. At 100° ,
weight loss was observed for all materials tested. At high temperatures, the
weight losses of all materials decreased and were gradually replaced by
weight gain. The surface of stainless steel specimens is covered by a
1/2

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USSR

SUKHOTIN, A. M., et al., Dissotsiiruyushch. Gazy kak Teplonositeli i Rab. Tela Energ. Ustanovok, Minsk, Nauka i Tekhn. Press, 1970, pp 122-130 (from Referativnyy Zhurnal-Yadernyye Reaktory, No 4, 1971, Abstract No 4.50.136) compact oxide film. Increasing the pressure increases the rate of corrosion by over 10 times. 4 figures; 4 tables; 3 biblio. refs.

172 011
UNCLASSIFIED
PROCESSING DATE--ZUNOV 10
TITLE--PREPARATION OF SOME ALIPHATIC, ALPHA,OMEGA,DIOLS BY THE DESTRUCTIVE
HYDROGENATION OF POLYESTERS, INFLUENCE OF REACTION CONDITIONS ON THE
AUTHOR--(C3)-POLYAKOVA, S.G., SHEDEDRINA, M.M., BELOV, V.N.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(5), 1144-8
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--HYDROGENATION, POLYESTER RESIN, CHLORINATED ORGANIC COMPOUND,
GLYCOL, ALIPHATIC ALCOHOL, CHEMICAL PRODUCT PRODUCTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3004/1954
STEP NO--UR/0080/70/043/005/1144/1148
CIRC ACCESSION NO--AP0132215
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132215

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HYDROGENATION OF $HIO(CH\ SUB2)$ SUBN CO) SUBX OH (N IS 6, 8, OR 10) OVER CU-CR CATALYST (S. G. POLYAKOVA, 1964) GAVE $HIO(CH\ SUB2)$ SUBN PLUS 1, OH (1) IN SIMILAR TO 80PERCENT YIELDS. SIMILARLY, POLYESTERS OF OMEGA-CHLORO ACIDS WERE ALSO HYDROGENATED TO GLYCOLS. BESIDES I THE REACTION PRODUCTS CONTAINED N-ALCS. AND UNIDENTIFIED COMPS. THE HYDROGENATIONS WERE CARRIED OUT AT 220-300DEGREES AND 110-210 ATM. THE CONDITIONS WERE OPTIMIZED FOR THE INDIVIDUAL I PRODUCTION. FACILITY: VSES. NAUCH.-ISSLED. INST. SIN. NATUR. DUSHISTYKH VESHCHISTV, VORONTSOVO, USSR.

UNCLASSIFIED

USSR

KETILADZE, YE. S., et al., Sovetskaya Meditsina, No 7, 71, pp 115-120

soft palate, and nosebleeds were observed in relatively small percentages of cases. A table shows the relative frequency of various symptoms in successive influenza epidemics from 1959 through 1969. However, these figures show no consistent pattern. As is clear from the data presented, the clinical picture of A2 (Hong-Kong) influenza does not differ in the character of individual symptoms from the A2 influenza of previous years. However, in the degree of manifestation of toxicosis and the number of severe cases among patients hospitalized in the clinic, the influenza in 1969 was more severe than in 1967, but less so than in 1959. Patients in military units generally showed a less severe course. Older patients, especially those with chronic respiratory disorders, showed intensification of these conditions.

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APPROVED FOR RELEASE: 08/09/2001 UDC 616.988.25(A2) 4

USSR

KETILADZE, YE. S., KRYAZEVA, L. D., KRYLOV, V. F., ALEKSEYEVA, A. A., POLYAKOVA, T. G., TSAREVA, R. G., LITVIN, L. L., and SHUL'ZHENKO, T. V., Clinical Department, Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences, USSR; and Municipal Infectious Disease Hospital No 82

"Clinical Picture and Some Aspects of the Pathogenesis of Influenza Caused by Virus A2 (Hong-Kong)"

Moscow, Sovetskaya Meditsina, No 7, 71, pp 115-120

Abstract: The article reports findings of a study of 402 influenza patients between 17 and 84 years of age, observed during the Moscow influenza epidemic of January and February 1969. The subjects included both those observed in the clinic and others in military units. The disease showed all the classical traits of influenza infection: acute beginning; rapid rise in temperature (39°C and higher in 86% of the civilian and 26% of the military cases); and swiftly increasing signs of toxicosis. Almost all patients showed headache, prostration, pains in the limbs, chill, dizziness, and vomiting. More severe cases showed changes in the vascular and central nervous systems: delirium, brief loss of consciousness, syncope, convulsions, and meningeal symptoms. Cyanosis of the lips and oral mucous membranes, microscopic hemorrhages of the

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USSR

UDC: 539.183.2

SILANT'YEV, A. N., POLYAKOVA, T. V., RABOTNOVA, F. A., SHKURATOVA, I. G.

"Isotopic Analysis of Samples of Radioactive Fallout and Aerosols Using Beta Spectrometry"

Tr. In-t eksperim. meteorol. Gl. upr. gidrometeorol. sluzhby pri Sov. min. SSSR (Works. Institute of Experimental Meteorology. Main Administration of the Hydrometeorological Service Affiliated With the Council of Ministers of the USSR), 1972, vyp. 25, pp 136-140 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 6, Jun 72, Abstract No 6.32.1275)

Translation: The paper deals with a method of determining the content of isotopes radium-106, praseodymium-104, yttrium-90 and strontium-89 by beta spectrometric analysis. A scintillation beta-spectrometer with plastic scintillator 70 mm in diameter and 20 mm thick was used as the spectrometer. Only beta emission with energy above 630 keV is considered in processing the spectra. Spectra measured in the range from 630 keV to 3.5 MeV are broken down into intervals, and the system of equations

$$N_i = a_i^{89} S_{89} + a_i^{104} S_{104} + a_i^{90} S_{90} + a_i^{106} S_{106}, \quad i = 1, 2, 3, 4.$$

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USSR

SILANT'YEV, A. N., Tr. In-t eksperim. meteorol. Gl. upr. gidrometeorol. sluzhby pri Sov. min. SSSR, 1972, vyp. 25, pp 136-140

is solved, where N_i is the number of pulses registered in interval i ; S is the number of pulses registered in the interval above 630 keV; a_i is a factor for converting from the number of pulses in an interval to the number of pulses registered in the interval above 630 keV; and conversion from the number of pulses registered to the radioactivity of the isotopes can be computed by the formula

$$N = A_0 \epsilon \omega \frac{1 - e^{-\mu d}}{\mu d},$$

where N is the count rate in the interval above 630 keV; A_0 is the activity of the preparation; ϵ is the effectiveness of registration in the interval considered; ω is the solid angle which accounts for angular distribution; d is the thickness of the layer, and μ is the coefficient of attenuation of beta emission. Four illustrations, bibliography of two titles. Résumé.

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Pesticides

USSR

UDC 619:614.449.57

ROSLAVTSEVA, S. A., IVANOVA, G. B., and POLYAKOVA, V. K., All-Union Scientific Research Institute for Chemical Protection of Plants

"Insecticides in the Control of Houseflies Resistant to Chlorophos"

Moscow, Veterinariya, No 8, 1973, p 35

Abstract: Studies were conducted on flies resistant ($R_{KH\ L}$) and susceptible (S) to chlorophos to determine their response to a series of aliphatic, aromatic, and heterocyclic derivatives of phosphoric acid insecticides, and derivatives of carbamic acid. On the basis of LD₅₀ for strain $R_{KH\ L}$, the most effective insecticides were DDVP, formotion, fitios, dibrom, fention, dioksikarb, and particularly gardon (high larvicidal activity and low toxicity for homiothermal animals).

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USSR

UDC 632.95.8

ROSLAVTSEVA, S. A., IVANOVA, G. B., Candidates of Biological Sciences, and
POLYAKOVA, V. K., VNII (All-Union Scientific Studies Institute of Chemical
Compounds for the Protection of Plants)

"Resistance of Houseflies to Benzophosphate"

Moscow, Khimiya v Sel'skom Khozyaystve, No 7, Vol 11, 1973, pp 38-40

Abstract: Flies were bred for resistance to benzophosphate (BP) by treating successive generations with increasing concentrations of BP from about 0.1% to 3%. The experiment was carried out for eight generations. Untreated flies showed a LD₅₀ of about 1 microgram/g BP. The LD₅₀ of the treated flies increased rapidly to 16 by the fifth generation, 150 by the twentieth, 600 by the fiftieth, and 2063 by the seventy-second generation. The resistance indicator increased from 9.1 to 1928 for the fifth, and the seventy-second generation respectively. The resistance is lost in succeeding generations if treatment is discontinued. The LD₅₀ and resistance indicator are shown for treated and untreated populations for a large number of other aliphatic, aromatic, heterocyclic, carbamide, formamide, and chlorinated insecticides. The compounds dimetoatom, fitiosom, dibromom, fenitrotionom, 1/2

USSR

ROSLAVTSEVA, S. A., et al., Khimiya v Sel'skom Khozyaystve, No 7, Vol 11, 1973, pp 38-40

bromofas, DDVF, and fentinom (all transliterated) are recommended and the compounds abata, kumafos, dursbana, diazinon, tritona, puelin and valekson are not recommended as substitutes for benzophosphate.

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USSR

UDC 632.95.022.8

IVANOVA, G. B., ROSLAVTSEVA, S. A., POLYAKOVA, V. K., and YEVTYUSHINA, T. M., All-Union Scientific Research Institute of Chemicals Used for Plant Protection

"Development of the Resistance of Houseflies to Phthalophos"

Moscow, Khimiya v Sel'skom Khozyaystve, No 9, 1971, pp 40-42

Abstract: It was previously established [S. A. Roslavitseva, et al., Med. parazitol., No 1, 1970] that after selection of a strain of houseflies resistant to diazinone by methylethylthiophos, the tolerance level to the latter did not change (X 4-5). After selection by phthalophos for 14 generations, the resistance of the flies to phthalophos increased by 9 times with an invariant level of resistance to methylethylthiophos. Thus, a study was made of the rapid development of the resistance to phthalophos by investigating the reaction of a laboratory strain of flies not subjected to treatment by insecticides to the compounds. Phthalophos [0, 0-dimethyl-(N-phthaloiimidomethyl)-diphosphosphate] dissolved in acetone was used in the experiment.

On selection of each generation of mature flies from a sensitive laboratory population by phthalophos a rapid increase in resistance occurred: in 1/2

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IVANOVA, G. B., et al., Khimiya v Sel'skom Khozyaystve, No 9, 1971, pp 40-42

generation F₈, the resistance to the insecticide increased by 10 times, in generation F₁₂, by 20 times and in generation F₂₇, by more than 1,000 times. In the presence of an increase in resistance to phthalophos by 20 times, a high cross resistance to ruelene (x -- 34) and koral (x -- 12) occurred. In the presence of 1,000-fold resistance of the imaginal stage, the larvae of the flies of the resistant race were more resistant than the larvae of the sensitive race by no more than 2 or 3 times. The vitality and sensitivity of the eggs of flies from the strains R_{phth} and S to phthalophos were identical. At the beginning of selection by phthalophos, the egg production of the flies increased. Later, in generation F₂₅, the egg production of the highly resistant flies of the R_{phth} strain differed little from the egg production of the flies of the sensitive strain S.

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1/2 012

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--CHANGES IN THE RESISTANCE OF FLIES TO METHYLETHYLTHIOPHOS AND
PHTHALOPHOS IN LABORATORY EXPERIMENTS -U-

AUTHOR--(03)-ROSLAVTSEVA, S.A., POLYAKOVA, V.K., IVANOVA, G.B.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLEZNI, 1970, VOL
39, NR 3, PP 345-349

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORGANIC PHOSPHOROUS INSECTICIDE, INSECTA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--2000/0235

STEP NO--UR/0358/70/039/003/0345/0349

CIRC ACCESSION NO--AP0123997

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123997

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CROSS RESISTANCE, REVERSION AND CHANGES IN RESISTANCE DEPENDING ON THE CHANGE OF THE SELECTING AGENT (METHYLETHYLTHIOPHOS FOLLOWED BY PHTHALOPHOS, O,O DIMETHYL S PHTHALIMIDGMETHYLDITHIOPHOSPHATE) WAS STUDIED IN A RACE OF HOUSE FLIES (OBTAINED FROM ENGLAND) RESISTANT TO DIAZINONE. IT WAS MOST RESISTANT TO PHENITROTHIONE (THE LEVEL OF RESISTANCE 7,5) AND METHYLETHYLHIOPHOSE 40. AFTER 26 SELECTIONS WITH METHYLETHYLTHIOPHOSE THE LEVEL OF RESISTANCE TO IT WAS REDUCED TO 4-5, WHILE REPEATED SELECTIONS DID NOT CHANGE IT. AFTER SELECTIVE TREATMENT OF THIS CULTURE WITH PHTHALAPHOSE IN 7 GENERATIONS RESISTANCE TO THE LATTER INCREASED MORE THAN 3 FOLD, WHILE TO METHYLETHYLTHIOPHOSE IT REMAINED AT THE FORMER LEVEL. FACILITY: VSESOUZNNYY NAUCHNO-ISSLED. INSTITUT KHMICHESKIKH SREDSTV ZASHCHITY RASTENIY, MOSKVA.

UNCLASSIFIED

USSR

UDC 678.026.3

POLYAKOVA, V. M., DEINEGA, Yu. F. (Institute of Colloid Chemistry and the Chemistry of Water, UkrSSR Academy of Sciences)

"Preparation of Metallo-Polymer Coatings by Electrodeposition on a Cathode"

Kiev, Ukrainskii Khimicheskii Zhurnal, Vol 39, No 10, 1973, pp 988-992

Abstract: A new method is described for making metal-polymer coatings, these being formed by electrodeposition of polyelectrolytes with weakly basic properties and metals on a cathode. The polymer binders used were amino-formaldehyde resins. The mechanism of deposition of the polymer binder and its interaction with the metal at the time of deposition are discussed.

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USSR

UDC 632.95

POLYAKOVA, V. N.

"Determination of DDT and the Gamma-Isomer of Hexachlorocyclohexane in Grain Fodder and in the Organs and Tissues of Animals by Thin-layer Chromatography"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov i profilakt. zagryazneniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-Union Conference on Investigation of Residues of Pesticides, and Prevention of Pesticide Contamination of Foodstuffs, Fodder and the External Environment), Tallinn, 1971, pp 192-193 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11N402)

Translation: A specimen of grain or the internal organs of animals (5 g) is pulverized, extracted for 40 minutes with 2 x 20 ml of n-hexane with agitation, the extract is passed through a column with KSK silica gel, washed with a mixture of n-hexane and petroleum ether (3:8), the eluate is evaporated, the residue is analyzed by thin-layer chromatography on silica gel (10 grams of KSK silica gel are mixed with 2 grams of gypsum, a solution of 1 gram of ortho-toluidine in 50 ml of ethanol is added, agitated, and poured onto a plate) in n-hexane, and irradiated with ultraviolet light.

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USSR

UDC 543.8:632.93

Candidates of Biological Sciences MOLOCHNIKOV, V. V., and ZHAVORONKOV, N. I.,
Candidate of Technological Sciences POLYAKOVA, V. N., and MOCHALOV, V. I.,
All-Union Institute of Experimental Veterinary Sciences

"Investigation of Solvents' Distillation Methods for the Purpose of Determining Certain Pesticides With the Use of Gas Chromatography"

Moscow, Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk imeni V. I. Lenin, No 7, July 1971, pp 32-33

Abstract: The ever increasing use of chemical pesticides in agriculture necessitates the development of analytical methods which make it possible to determine the residue content of these chemicals in food products, water, soil, stock feed, and so on in quantities as small as 0.001 to 1.000 micrograms per kilogram. Among such methods is gas chromatography. For this purpose processes which make it possible to distil and evaporate solvents containing the pesticides to lowest concentration volumes are required.

The object of the investigations described in the article was to determine the efficacy of different distillation methods when applied for the

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USSR

MOLOCHNIKOV, V. V., et al., Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk imeni V. I. Lenin, No 7, July 1971, pp 32-33

preparation of four of the most widely used pesticides -- 4,4'-dichlorodiphenyltrichloroethane (DDT); 4,4'-dichlorodiphenyltrichloroethylene (DDE); trichlorometaphos-3 (TKhM-3); the gamma-isomer of hexachlorocyclohexane (lindane) for gas chromatography. One milliliter of a standard mixture containing 10 micrograms of each of the pesticides was dissolved in 100 milliliters of a mixture of benzene and hexane in a ratio of 3:8. Distillation was carried out in a 500 milliliter round-bottom retort (retort 1); 500 milliliter flat-bottom retort (retort 2); 120 milliliter round-bottom retort (retort 3); Petri dish; and 250 milliliter round-bottom retort on an IR-1 evaporator.

The contents of retorts 1, 2, and 3 were distilled as follows: on a boiling water bath for 12 minutes; on a water bath at 80 degrees Centigrade (C) for 40-60 minutes; on a water bath at 45-50 degrees C in an air current for 20-40 minutes. The contents of retort 3 were also distilled on a water bath
2/3

USSR

MOLOCHNIKOV, V. V., et al., Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk imeni V. I. Lenin, No 7, July 1971, pp 32-33

at 45-50 degrees under vacuum for 25-30 minutes; of Petri dish in an air current at room temperature for 45-50 minutes; of the 250 milliliter round-bottom retort on a water bath of an IR-1 evaporator at a temperature of 45-50 degrees C. Distillation was continued until volumes of 0.2-0.4 milliliters were obtained. The residue was washed with 10 milliliters of hexane and analyzed. Optimal results were obtained in distillation under vacuum at 45-50 degrees C. Only about 0.5 percent of the lindane was lost, while the other pesticides were determined without loss.

3/3

USSR

UDC 669-172:541.12.03

SAVITSKIY, Ye. M., BUROV, I. V., LITVAK, L. N., POLYAKOVA, V. P., and KHORLIN, Ye. M.

"Thermo-Emission Properties of Iridium Single Crystals"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 81-85

Translation: Certain thermo-emission characteristics of an iridium single crystal are produced in a vacuum of 10^{-9} torr, grown by the method of zone refining by an electron beam. A thermo-emission image of iridium is produced in a Martin projector. The brightness of luminence indicates the following order of increasing work function for various faces: (311)-(110)-(100)-(111). It is established that the iridium does not change its emission picture with changing residual gas pressure in the 10^{-5} - 10^{-8} torr interval. An instrument with flat geometry is used to determine the work function on the (100) and (110) faces. The following values are produced for full current: for the (100) face at $1,900^{\circ}\text{K}$, $\phi = 5.37 \pm 0.05$ ev, for the (110) face at $1,900^{\circ}\text{K}$, $\phi = 4.83 \pm 0.05$ ev. The Richardson work functions correspondingly are $\phi_{(100)} = 5.50 \pm 0.05$ ev, $\phi_{(110)} = 4.85 \pm 0.05$ ev. 7 Figures; 10 Bibliographic References.

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USSR

UDC 669.236

SAVITSKIY, Ye. M., GORINA, N. B., POLYAKOVA, V. P., and SHELYAKIN, L. B.

"Use of the Method of Ion Bombardment to Determine Fine Structure of Noble Metals"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 60-62

Translation: The use of the method of ion bombardment is used to determine the fine structure of ruthenium single crystals. The fine structure is determined on prismatic planes of the crystal. A comparative estimate is made of the etching pictures observed. The possibility is shown of using this method to determine the structure of the noble metals. 5 Figures; 10 Bibliographic References.

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USSR

P UDC 621.372.853.32

KOZULIN, V. T., POLYAKOVA, Yu. S.

"Propagation of Asymmetric Waves in a Plasma-Filled Helix"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazorazryadn. pribory (Electronics Technology. Scientific and Technical Collection. Gas-Discharge Devices), 1970, vyp. 1 (17), pp 3-8 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10B130)

Translation: The authors give the results of a theoretical investigation of a "plasma-helix" system for the case of propagation of asymmetric waves. It is shown that the dispersion characteristics of asymmetric waves in such systems are somewhat shifted with respect to the dispersion characteristics of symmetric waves, one branch being shifted toward a reduction in the wave propagation constant (analogously to asymmetric waves in a helical delay line without plasma), while the other branches are shifted toward an increase in the propagation constant. One illustration, bibliography of six titles. Résumé.

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Miscellaneous

USSR UDC 547.495.2+546.185-31'39+546.212/.002.612.3.03

SARBAYEV, A. N., POLYAKOV, TE. V., TYUNINA, M. F., POLYAKOVA, Z. A., and RUCHKOVA, A. KH.

"The Physico-Chemical Properties of Aqueous Solutions of Carboammophos of Grade 1:1"

Moscow, Khimicheskaya Promyshlennost', Vol 48, No 6, Jun 72, pp 437-438

Abstract: The solubilities, density, and vapor pressure in relation to the concentration and temperature in the system $\text{CO}(\text{NH}_2)_2\text{-NH}_4\text{H}_2\text{PO}_4\text{-H}_2\text{O}$ ($\text{N}_1\text{P}_2\text{O}_5 = 1:1$) were determined experimentally. On the basis of the data obtained, a diagram was plotted (figure) which represents the physico-chemical properties of aqueous solutions of carboammophos 1:1 at concentrations of 0-97% by weight and pressures of 20-760 mm Hg. The diagram covers the total range of existence of aqueous solutions of this fertilizer. By using it, the solubility, concentration, temperature, vapor tension, boiling point, density, and specific volume of carboammophos 1:1 solutions can be determined and also the relation between the liquid and solid phase in the range of saturated solutions of the fertilizer. Because of the hydrolysis of urea, the properties of the system do not correspond to equilibrium. However, the diagram applies if determinations of the experimental characteristic that is used are carried out rapidly.

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1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--FUNCTIONAL CONDITION OF BLOOD CAPILLARIES PERMEABILITY IN CHRONIC
NONSPECIFIC DISEASES OF THE LUNGS -U-
AUTHOR-(02)-DZIZINSKIY, A.A., POLYAKOVASELIVANOVA, N.D. P
COUNTRY OF INFO--USSR
SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 6, PP 67-71
DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD, CAPILLARY, PERMEABILITY MEASUREMENT, LUNG, PULMONARY
DISEASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1891

STEP NO--UR/0504/70/042/006/0067/0071

CIRC ACCESSION NO--AP0129246

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129246

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS EXAMINED 110 PATIENTS WITH CHRONIC NONSPECIFIC DISEASES OF THE LUNGS AND 30 HEALTHY INDIVIDUALS (CONTROL GROUP). PERMEABILITY OF BLOOD CAPILLARIES WAS STUDIED BY A CAPILLARY VENOUS METHOD USING A HYDROSTATIC TEST, OXYGEN TENSION IN THE TISSUES PO SUB2 BY A POLAROGRAPHIC METHOD (RA,3) IN OXYGEN LOAD. A COMPLEX OF CURRENT INSTRUMENTAL AND BIOCHEMICAL METHODS OF INVESTIGATION OF PATIENTS WITH PULMONARY DISEASES IS USED. INVESTIGATIONS WERE CONDUCTED WITH DUE ACCOUNT FOR THE STAGES OF THE DISEASE, PHASES OF EXACERBATION AND REMISSION, SYNDROME OF PULMONARY AND CARDIAC INSUFFICIENCY, AGE PECULIARITIES OF PATIENTS AND DURATION OF THE DISEASE. THERE ARE TWO PHASES IN THE CONDITION OF PERMEABILITY OF CAPILLARY CONNECTIVE TISSUE STRUCTURES, BESIDES THE PRESENCE OF THE "CAPILLARY TROPHIC INSUFFICIENCY" SYNDROME IS REVEALED. A CONCLUSION IS MADE CONCERNING A POSSIBLE PARTICIPATION OF THIS SYNDROME IN THE DEVELOPMENT OF CARDIO PULMONARY INSUFFICIENCY, TISSUE HYPOXY, DYSTROPHIC AND SCLEROTIC CHANGES. IN ITS TURN, THE SYNDROME OF PULMONARY AND CARDIAC INSUFFICIENCY MADE AN INFLUENCE ON THE FUNCTIONAL CONDITION OF PERMEABILITY, THE LATTER DEPENDING UPON THE PATIENT'S AGE (A DROP IN ADAPTIVE ABILITY IN SENILE PATIENTS) AND DURATION OF THE DISEASE. IN THE GIVEN PATHOLOGY A DISORDER OF MICROCIRCULATION AND SUBSTANTIAL CHANGES IN THE ACTIVITY OF A NUMBER OF ENZYMES AND BIOLOGICALLY ACTIVE SUBSTANCES PARTICIPATING IN THE REGULATION OF PERMEABILITY PLAY A DEFINITE ROLE. FACILITY: KAFEDRY FAKUL'TETSKOY TERAPII LECHEBNOGO I PEDIATRICHESKOGO FAKUL'TETOV NOVOSIBIRSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

USSR

UDC 612.273.1:577.3

MATSYNIN, V. V., ZAYTSEVA, N. P., and POLYANCHUK, M. V., Hypoxia and Hyperoxia Laboratory, Institute of Physiology imeni A. A. Bogomolets, Academy of Sciences UkSSR

"State of Oxidative Processes in the Livers of White Rats at Different Times After Exposure to Hyperoxia"

Kiev, Fiziologichnyi Zhurnal, No 3, 1971, pp 391-396

Abstract: Free respiration and phosphorylation were studied in liver homogenates and mitochondria from white rats exposed to toxic doses of hyperoxia (4 ata) for 60 minutes. In one series of experiments, observations were conducted immediately after recompression; in another series, on the second day. In both series there was a decrease in conjugation of free oxidation and phosphorylation, as determined from the value of the respiratory control. The respiratory control decreased in most cases because of the relatively smaller increase in respiratory rate of the mitochondria and homogenates in a medium with phosphate acceptors (ATP+hexokinase+glucose) added. This phenomenon was observed both immediately following recompression and on the second day thereafter.

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USSR

UDC 621.039.526:621.039.516

USYNIN, G. B., and POLYANIN, L. N.

"Doppler Effect and Nuclear Safety of a Fast Reactor"

Moscow, Atomnaya Energiya, Vol 29, No 3, Sep 70, pp 216-218

Abstract: The presence of a negative Doppler effect in a fast reactor due to the temperature dependence of the interaction cross-section of neutrons with nuclei of the fuel has a compensating effect on sudden reactivity changes resulting, for example, from the start of sodium boiling in the core. If there is not a sufficiently rapid feedback between the power increase which occurs and reactivity, this leads to reactor runaway. Two factors characterizing the action of the Doppler effect in reactivity perturbations are considered, viz. the delay time for this effect relative to a change in the neutron density is estimated and the effect of heterogeneity of the fuel composition on the magnitude of the Doppler effect is considered.

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Acc. Nr:

AA0108725

Abstracting Service:

Ref. Code:

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3/70

| 242991 MACHINE FOR FIXING SEPARATING MATERIAL TO ELECTRODES of chemical cells has each welding unit in the machine fitted with an electrical cutter at the sides of which are spring-loaded catches which press the separating material (in tape form) to the edges of a longitudinal slot -in a supporting plate. The feed-in mechanism for the separation material takes the form of a shaped template for tensioning the welded butt joint of two strips of separation material. In slots of this template operate, with reciprocating motion, the shaped clamps of the transporter which transfers the electrodes and separation material to the welding unit. 15.3.68. as 1225550/24-7, RUVINSKII, L.G. KREININ, M.N. POLYANIN, V. Ya. et al (25.9.69) Bul. 16/5.5.69. Class 21b, Int. Cl. H 01a.)

AUTHORS: Ruvinskiy, L. G.; Kreynin, M. N.; Polyanin, V. Ya.;
Adamyan, R. G.; Manukhin, S. V.; Gufushkin, V. V.

REEL/FRAME

13900504

18 65

USSR

UDC 539.3'

AMIRO, I. YA., POLYANKOV, P. S., PALAMARCHUK, V. G., (Kiev), Institute of Mechanics, Ukrainian SSR

"The Stability of Cylindrical Shells of Imperfect Shape"

Kiev, Prikladnaya Mekhanika, Vol 7, No 8, 1971, pp 9-15

Abstract: The problem of the stability of ribbed cylindrical shells, the initial deflections of which are given in the form of the double trigonometric series, is solved on the basis of an energy method in a geometrically non-linear formulation with account taken of the discrete position of the supporting ribs. The obtained solution is used for determining the theoretical values of the critical loads of tested ribbed and smooth shells, which are subjected to appropriate measurement before loading. A comparison is made of the theoretical and experimental values of the critical loads, and it was disclosed that the difference for all tested shells does not exceed 1.7%, which constitutes satisfactory agreement. One figure, two table, three references.

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1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ELECTROCAPILLARY PROPERTIES OF A GALLIUM INDIUM ALLOY -U-
AUTHOR--(02)-POLYANOVSKAYA, N.S., FRUMKIN, A.N. P
COUNTRY OF INFO--USSR
SOURCE--ELEKTROKHIMIYA 1970, 6(2), 246-9
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--EUTECTIC MIXTURE, GALLIUM ALLOY, INDIUM ALLOY, POTASSIUM
CHLORIDE, SODIUM COMPOUND, CHLORATE, PHENOL, ALCOHOL, QUINONE, AQUEOUS
SOLUTION, ELECTROCAPILLARY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/1863 STEP NO--UR/0364/70/006/002/0246/0249
CIRC ACCESSION NO--AP0115682
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0115682

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTROCAPILLARY PROPERTIES OF THE 2-COMPONENT EUTECTIC GA-IN ALLOY WITH M.P. AT 15.73 DEGREES AND CONTG. 16.7 ATOM PERCENT IN WERE INVESTIGATED. THE ALLOY WAS OBTAINED BY DISSOLVING IN OF 99.999 PERCENT PURITY IN GA OF 99.9998 PERCENT PURITY. ELECTROCAPILLARY CURVES WERE TAKEN OF THIS LIQ. ALLOY IN N SOLNS. OF KCL, KI, K SUB2 SO SUB4, AND NACLO SUB4 AND IN N KCL SOLN. CONTG. ADDNS. OF ORG. SUBSTANCES: ISOAMYL ALC., PHENOL AND HYDROQUINONE. A GREAT SIMILARITY WAS NOTED BETWEEN THE PROPERTIES OF THE GA-IN ALLOY AND THOSE OF HG, ESP. WITH RESPECT TO THE DOUBLE LAYER STRUCTURE, AS WELL AS SIGNIFICANT DIFFERENCES IN THE PROPERTIES WITH RESPECT TO PURE GA. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--MOLECULAR PARAMETERS AND THE STRUCTURE OF ASPARATATU TRANSAMINASE
AND ITS SUBUNITS -U-
AUTHOR-(03)-POLYANOVSKIY, O.L., ZAGYANSKIY, YU.A., TUMERMAN, L.A.
COUNTRY OF INFO--USSR
SOURCE--MOLEKULYARNAYA BIOLOGIYA, 1970, VOL 4, NR 3, PP 458-470
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TRANSAMINASE, ENZYME ACTIVITY, FLUORESCENCE, PROTEIN,
SEDIMENTATION, BROWNIAN MOTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/0224 STEP NO--UR/0463/70/004/003/0458/0470
CIRC ACCESSION NO--AP0120919
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120919

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS SHOWN THAT THE MOLECULES OF ASPARTATE TRANSAMINASE (CE 2.6.1.1) DISSOCIATE INTO TWO SUBUNITS IN ALCALINE (PH 11-12) AS WELL AS IN ACID (PH 2,5-3,0) MEDIA. CONDITIONS FOR REASSOCIATION AND RENATURATION OF THE SUBUNITS TO THE ENZYMATICALLY ACTIVE MOLECULE ARE DESCRIBED. THE FLUORESCENCE PARAMETERS (LIFE TIME τ , RELATIVE QUANTUM YIELD Φ , DEGREE OF POLARIZATION P AND SPECTRAL DISTRIBUTION) WERE MEASURED FOR THE DNS PROTEIN (1, DIMETHYLAMINONAPHTHALENE, 5, SULFONYL) BOTH WITH THE NONDISSOCIATED ENZYME MOLECULE AND WITH THE SUBUNITS. FROM THESE DATA THE VALUES OF ROTATIONAL RELAXATION TIME WERE CALCULATED (146 AND 48 NSEC RESPECTIVELY). THE VALUES OF AXIAL RATIO FOR BOTH SPECIES OF MACROMOLECULES APPROXIMATED AS RIGID ROTATIONAL ELLIPSOIDS WERE CALCULATED FROM THE FLUORESCENCE DATA AS WELL AS FROM THE RESULTS OF HYDRODYNAMIC MEASUREMENTS (SEDIMENTATION, DIFFUSION, VISCOSITY). THE VALUES CALCULATED ON THE BASIS OF THESE TWO SOURCES OF INFORMATION AGREE QUITE WELL FOR THE NONDISSOCIATED MOLECULE BUT DIFFER SIGNIFICANTLY FOR THE SUBUNITS. TO RECONCILE THESE RESULTS, A NEW HYPOTHETICAL MODEL OF THE TRANSAMINASE MOLECULE IS PROPOSED, BASED ON THE ASSUMPTION THAT EACH SUBUNIT CONSISTS OF TWO INDEPENDENTLY ROTATING NUCLEI. THE DEPOLARIZATION OF FLUORESCENCE IS DETERMINED BY BROWNIAN ROTATION OF SUCH A NUCLEUS WHEN THE SUBUNITS ARE SEPARATED, BUT BY ROTATION OF THE ENZYME MOLECULE AS AN ENTITY WHEN THE SUBUNITS ARE IN COHESION AND FORM A NONDISSOCIATED MOLECULE. FACILITY: INSTITUTE OF MOLECULAR BIOLOGY, ACADEMY OF SCIENCES, USSR, MOSCOW.

UNCLASSIFIED

USSR

UDC 621.315.592

VUL', S. P., POLYANSKAYA, T. A. and SHMARTSEV, Yu. V.

"Production and Study of Single Crystals of CdSnAs_2 "

V sb. Protsessy rosta kristallov i plenok poluprovodn. (Procedure for the Growth of Semiconductor Crystals and Films -- Collection of Works), Novosibirsk, 1970, pp 476-484 (from RZh-Elektronika i yeye primeneniya, No 7, July 1971, Abstract No 7B37)

Translation: The method of zone crystallization with seeding was used for production of single crystals of CdSnAs_2 . The compound, synthesized at a temperature of 750°C in an atmosphere of spectrally pure argon, was subjected to zone refinement. The method of horizontal zone crystallization with seeding proved to be most effective in comparison with other methods which were used for production of CdSnAs_2 . The results of a study of the physical properties of CdSnAs_2 are also presented. 22 ref.
A. Eydenzon

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1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SYNTHESIS AND CRYSTALLOGRAPHIC STUDY OF THE OXYTUNGSTATE CHLORIDES
LN SUB3 WO SUB6 CL SUB3, LN IS CE, PR, OR NO -U-
AUTHOR--(03)-KHARCHENKO, L.YU., KLEVTSOV, P.V., POLYANSKAYA, T.M.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(6), 1286-8
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, CHEMISTRY
TOPIC TAGS--CRYSTALLOGRAPHY, TUNGSTATE, SINGLE CRYSTAL, CHLORIDE, RARE
EARTH COMPOUND, CHEMICAL SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/1248 STEP NO--UR/0020/70/191/006/1286/1288
CIRC ACCESSION NO--AT0138259
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0138259

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SYNTHESIS AND CRYSTALLOGRAPHIC STUDIES OF OXYTUNGSTATE CHLORIDES, CRYSTD. FROM AN ANHYD. SOLN. CONTG. LIF, WERE MADE. THE FORM OF LN SUB3 WO SUB6 CL SUB3 SINGLE CRYSTALS CRYSTALLIZE EITHER AS ELONGATED HEXAGONAL PRISMS OR THIN HEXAGONAL PLATES; SINGLE CRYSTALS ARE RELATED TO THE L SUB6 PC CLASS WITH THE LATTICE PARAMETER RATIO C-A EQUALS 0.57. THE CHEM. FORMULA OF THE LN SUB3 WO SUB6 CL SUB3 COMPD. WAS DETD. BY CHEM. ANAL. AND STRUCTURAL ANAL. FOR NO OXYTUNGSTATE CHLORIDE, THE COMPN. WAS NO 51.9, W 23.4, CL 12.3PERCENT; NO ALKALI METALS WERE DETECTED. X RAY POWDER DIFFRACTION PATTERNS REVEALED THE ISOSTRUCTURAL CHARACTER OF LN SUB3 WO SUB6 CL SUB3; FOR PR SUB3 WO SUB6 CL SUB3 THE LATTICE PARAMETERS ARE A 9.314 AND C 5.269 ANGSTROM. DECOMPN. OF THE LN SUB3 WO SUB6 CL SUB3 COMPOS. BEGINS AT 1000DEGREES, WHILE HEATING IN AIR AT 1100DEGREES FOR 5 HR COMPLETELY DECOMPS. THE COMPD. FACILITY: INST. NEORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

USSR

UDC: 551.596:534.143

POLYANSKAYA, T. V., SKIPA, M. I.

"Models of Hydroacoustic Signals Formed Close to the Bottom"

Moscow, Tezisy dokl. 3-y Vses. shkoly-seminara po stat. gidroakustike, 1971
--sbornik (Abstracts of Papers of the Third Soviet-Wide Seminar-School of
Statistical Hydroacoustics, 1971--collection of works), 1972, pp 337-343
(from RZh-Fizika, No 5, May 73, abstract No 5Zh642 by V. P. Sukhin)

Translation: The authors consider two approaches to constructing a mathematical model of hydroacoustic signals -- the wave approach and the phenomenological approach. Analysis of the wave model showed that the process of signal formation close to the bottom can be qualitatively characterized; quantitative evaluations require knowledge of supplementary initial data which make solution of the wave equation extremely difficult. The phenomenological approach to analysis of wave equations enables treating the bottom signal as quasideterministic and synthesizing its structural model with random amplitude and phase modulation.

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USSR

UDC 632.951

ROSLAVTSEVA, S. A., IVANOVA, G. B., YEVTYUSHINA, T. M., and POLYAKOVA, V. K.,
All Union Scientific Research Institute of Chemical Plant Protectants

"The Cross Resistance of Three Races of House Flies Resistant to Organophosphorus Preparations"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 8, No 8, Aug 70, pp 39-41

Abstract: The authors studied the possibility of developing cross resistance by selecting resistant flies with various organophosphorus preparations, as well as the dependence of the induced resistance on the selecting agent. The experiments were performed on the following races of flies: R_p , obtained from susceptible race S (All Union Scientific Research Institute of Chemical Plant Protectants) selected with phthalophos; R_m , derived from race S by selection with malathion (carbophos); R_a , obtained by selection with methylethylthiophos of a resistant race treated at first with Diazinon. Active ingredients of chlorophos, Rogor, methylacetophos, phthalophos, Phosalone, Co-Ral, DDVP, phoxime, and the commercial products Ruelene, Sumithion and carbophos, Baytex and bromophos were used for the study. The following preparations are recommended on the basis of resistance development and induction data for the

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USSR

ROSLAVTSEVA, S. A., et al. Khimiya v Sel'skom Khozyaystve, Vol 8, No 8, Aug 70, pp 39-41

eradication of flies in livestock houses: Rogor (most toxic for susceptible and resistant races), DDVP, chlorophos, Fitios, Sumithion and malathion (resistance to malathion develops very slowly). The use of phthalophos against flies is not recommended. Nor should livestock housing be treated with phthalophos, Phosalone (especially if malathion was used previously for a long time against flies), Co-Ral or Ruelene.

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USSR

UDC 615.616.24-003.650.6 (2)

DINKELIS, S. S., KRIKUNOV, G. N., KIRILYUS, Z. YE., KONDRASHOVA, M. YA., MYAKISHEV, I. A., POLYANSKAYA, E. A.

"Significance of the Petrographic Composition and Degree of Oxidation of Coal Dust When Evaluating It In Anthracosis Danger"

Nauch. tr. Irkutsk. med. in-t (Scientific Works of the Irkutsk Medical Institute), 1972, vyp 110, pp 39-40 (from RZh--Farmakologiya. Khimioterapevticheskiye Sredstva. Toksikologiya, No 3, Mar 73, Abstract No 3.54.889)

Translation: Three specimens of coal dust of defined petrographic composition and state of oxidation comprising 98-99 percent organic material and not containing SiO_2 were obtained experimentally. After intratracheal administration of these coal dust samples to rats, by the results of the histomorphologic and biochemical studies it was established that the rats developed pulmonary fibrosis. Among the trace components of the coal dust, the more expressed fibrogenic reaction was obtained for fusinite. The biological effects caused by the unoxidized coal dust (by comparison with oxidized) appeared more quickly and were most expressed during the first ten days after poisoning.

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